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853890001

PASSAIC RIVER STUDY AREA
POTENTIALLY RESPONSIBLE PARTY INVESTIGATION

SUMMARY OF EVIDENCE PERTAINING TO:

AT&T TECHNOLOGIES
100 CENTRAL AVENUE
KEARNY, NEW JERSEY

PREPARED BY:

KROLL ASSOCIATES, INC.
PARSIPPANY, NJ

JULY, 1996

853890002

WESTERN ELECTRIC COMPANY
10 CENTRAL AVENUE
KEARNY, NEW JERSEY

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EXHIBITS

1. **Western Electric press release dated January 27, 1983.**
   - Establishes dates of occupancy and product history.
2. **AT&T letter dated May 24, 1984, to Anthony J. McMahon, Chief Bureau of Industrial Site Evaluation NJDEP and copy of Agreement between AT&T and Union Minerals and Alloy Corp. dated April 16, 1984.**
   - Establishes Site ownership.
3. **Dun & Bradstreet report for RTC Properties, Inc.**
   - Establishes current Site owner/operator.
4. **Excerpt from the International Directory of Company Histories for the AT&T Company.**
   - Establishes Site owner and potential products manufactured.

Exhibits - Continued

5. **Affidavit of Daniel Bartel**
   - Establishes products and operations, piping network to river and discharge history.
6. **Excerpts from the Environmental Cleanup Plan AT&T Technologies, Inc. dated November 1984. Prepared by Environmental Research & Technology, Inc.**
   - Provides description of plating operations and waste water treatment plant.
7. **1950 Sanborn Maps**
   - Establishes process locations.
8. **AT&T Initial ECRA Notice Submission dated February 6, 1984 and Environmental Evaluation Measurement Plan Kearny Works AT&T Technologies dated May 1984.**
   - Establishes site ownership, products and operations, raw materials and wastes, and discharge history.
9. **Kearny Fire Department document (not dated)**
   - Provides list of raw materials.
10. **Interstate Sanitation Commission Compliance Monitoring Report, October 1982.**
    - Provides information on the plating operation, waste water treatment plant and facility outfalls.
11. **EPA NPDES Permit Renewal Application**
    - Identifies outfalls to the Passaic River and potential discharge mechanisms.
12. **Excerpts from the Amended Environmental Clean-up Plan, Kearny Works AT&T Technologies, Inc., June 1985. Prepared by Dr. William A. Duvel Jr. P.E.**
    - Establishes existence of soil, sediment and groundwater contamination. Also establishes that historical spills of hazardous substances occurred.
13. **Excerpts from the Remedial Proposal for Contaminated Soil at Former Drum Storage Pad ECRA Case N0. 84025 dated February 1993.**
    - Establishes existence of soil contamination and potential discharge mechanisms.
14. **NJDEP letter to AT&T dated August 11, 1992 and AT&T letter and attachments to NJDEP dated September 3, 1992.**
    - Identifies waste storage area and establishes potential discharge mechanisms.
15. **RSL Consulting Engineer, P.C., 1992 Sewer Map for South Kearny.**
    - Identifies outfalls to the Passaic River and potential discharge mechanisms.
16. **Site Hydrogeologic Conditions Kearny Works AT&T Technologies, Inc, Dated March 25, 1985 and Revised June 17, 1985.**
    - Provides potential discharge of contaminated groundwater to the Passaic River.

1.0 INTRODUCTION

This Summary of Evidence Pertaining to the Western Electric Company ("Western Electric") presents in summary form, evidence of Western Electric Co.'s discharge of hazardous substances to the Passaic River Study Area. Western Electric, a company owned by AT&T since 1882, was merged into AT&T Technologies, Inc. in 1984. AT&T has assumed responsibility for the remediation of this facility. Relevant supporting materials, including Sanborn Maps, affidavit of a knowledgeable person, and documents obtained from various sources including the NJDEP, are included as Exhibits to this Summary of Evidence and are referenced as appropriate in the text. The sediment sampling data was produced to EPA in January 1994 and April 1996.

This Summary of Evidence reflects only the information collected to date, and therefore is not a complete or final analysis of the facts relevant to Western Electric's (and/or its successors-in-interest) liability for costs associated with the Passaic River.

The text of this document is organized so as to provide only the relevant evidence indicating Western Electric to be a Potentially Responsible Party for the Passaic River Study Area. Section 2.0 provides an Executive Summary chart identifying the evidence presented within the text, as well as a summary of conclusions which have been reached based upon this evidence. Sections 3.0 and 4.0 summarize the operating History and Discharge History of the former Western Electric facility. Section 5.0 identifies environmental contaminants detected in Passaic River Study Area sediments adjacent to the former Western Electric facility. Section 6.0 presents a summary of these findings.

2.0 SUMMARY OF CONCLUSIONS

The evidence presented in this document, which is summarized in the accompanying Executive Summary chart, supports the following conclusions:

- Numerous hazardous substances have been stored, used and/or produced at the former Western Electric facility during Western Electric's tenancy.

- There are several known and documented discharge pathways to the Passaic River Study Area from the former Western Electric facility.

- The historic discharge of hazardous substances from the former Western Electric facility to the Passaic River Study Area has been documented.

- Hazardous substances like and including those known to have been used at the former Western Electric facility are present in Passaic River Study Area sediments.

Based on these conclusions, Western Electric and its' relevant successors-in-interest should be named as Potentially Responsible Parties for the Passaic River Study Area.

EXECUTIVE SUMMARY - WESTERN ELECTRIC COMPANY (AT&T)

(As of May 30, 1996)

COMPANY	LOCATION AND YEARS OF OPERATION	TYPE OF OPERATION	HAZARDOUS SUBSTANCES STORED/USED/PRODUCED AT FACILITY	DOCUMENTED DISCHARGES OF HAZARDOUS SUBSTANCES TO FACILITY/RIVER	OTHER PATHWAYS TO DISCHARGE HAZARDOUS SUBSTANCES	HAZARDOUS SUBSTANCES USED AT FACILITY IDENTIFIED IN PASSAIC RIVER SEDIMENTS ADJACENT TO SITE	FINANCIAL VIABILITY
Western Electric (AT&T) 100 Central Avenue Kearny, NJ Current Owner/Operator: Union Minerals & Alloys/RTC Properties 85389007	Western Electric is located within the southern portion of the Passaic River Study Area on the eastern bank of the river extending from the Passaic River Study Area mile 0.0 to approximately 0.7. Western Electric occupied the site from the 1920's through 1984.	Historically the WE facility manufactured and assembled numerous products that were utilized in the telecommunications industry. It is believed that WE facility also manufactured various products utilized by the U.S. Armed Forces during and after World War II. Known Products • Telecommunication Equipment (connectors, test sets, relays, etc.) • Transformers • Insulated Cable/Wire • Screws and Bolts • Telephone Switch Boards Suspected Products • Shell Casings • Nike Missile Parts • Two Way Radios • Torpedo Parts • PT Boats	ammonia boric acid carbon tetrachloride chlorofluorocarbon chromium trioxide copper cutting oils cyanide dibasic ammonium citrate fluoboric acid flux freon hydrochloric acid lacquer and thinner lead fluoborate mercury nickel chloride nickel sulfate nitric acid PCBs paints and sludge (solvents and metals) perchlorethylene phosphoric acid potassium cyanide potassium hydroxide silver cyanide sodium cyanide sodium dichromate sodium hydroxide sulfuric acid trichlorethylene 1,1,1 trichloroethane varnish varsol zinc cyanide	Discharges to River • Prior to construction of the facility waste water treatment plant in 1973 process waste water generated from plating operations was discharged to the Passaic River via the facility storm sewer system. • Waste water generated from the manufacturing of screws was discharged to floor drains located in building #170 at the facility. These floor drains discharged to the Passaic River. • Hazardous substance discharge to the river via historical spills adjacent to storm sewer catch basins that discharge to the river. • On-site contaminated soil or media transported to the Passaic River via Surface Water/Flooding. Contamination has been detected in site soils and several storm water catch basin sediments that discharge to the river.	• Potential process waste water and/or spills discharged to floor drains located in manufacturing and assembly buildings that discharge to the Passaic River. • Site soil and groundwater is contaminated with volatile organic compounds. Groundwater flow direction is toward the Passaic River from the site.	copper cyanide lead mercury nickel silver zinc PCBs petroleum hydrocarbons toluene benzene xylene	AT&T has reported assets of over $87 billion as of 1995.

3.0 SUMMARY OF OPERATIONS

3.1 Site History and Location

The Western Electric Company operated from 1925 until 1984 at 100 Central Avenue in the City of Kearny, Hudson County, New Jersey (Exhibit #1 and #2). Although a number of other parties have owned and/or operated at the site prior and subsequent to Western Electric, this report solely addresses the facts relevant to Western Electric's (and/or its successors-in-interest) liability for cost associated with the Passaic River Study Area. Information concerning the prior and subsequent owners and/or operators of the Western Electric facility can be provided upon request.

The Western Electric facility (also known as the Kearny Works) was situated on approximately 147 acres within a section of Kearny known as Kearny Point. It is bordered on the north by the Lincoln Highway and on the south by railroad tracks belonging to the Central Railroad of New Jersey (Conrail). The eastern border of the parcel is formed by railroad tracks (Conrail) and Central Avenue, and the Passaic River is adjacent to and directly west of the facility. The Site is located within the southern portion of the Passaic River Study Area, on the eastern bank of the river extending from the Passaic River Study Area river mile 0.0 to approximately 0.7. A Site map is provided as Figure #1. The map identifies the location of the Western Electric facility within the Study Area, as well as the approximate location of all Noticed PRPs as of May 29, 1996.

In 1984, AT&T sold the property, in its entirety, to Union Minerals and Alloys Corporation (UMAC), a New York based company which operated as an exporter of ferrous and non-ferrous metals. UMAC, a subsidiary of Neu, Hugo & Sons, Inc., changed its name to R T C Properties,Inc. on August 29, 1988. R T C Properties, Inc., still a subsidiary of Neu, Hugo & Sons, currently owns and operates the subject property as a multiple tenant industrial park (Exhibit #2 and #3). The table provided below summarizes Western Electric's and UMAC approximate dates of occupancy and description of activities performed at the Site:

Company	Approximate Dates of Occupancy	Activity
Western Electric/ AT&T Corp.	1925 - 1985	Telecommunications manufacturing.
Union Minerals & Alloys/RTC Properties	1985 - present	Multiple tenant industrial park.

Western Electric Company
Site Map

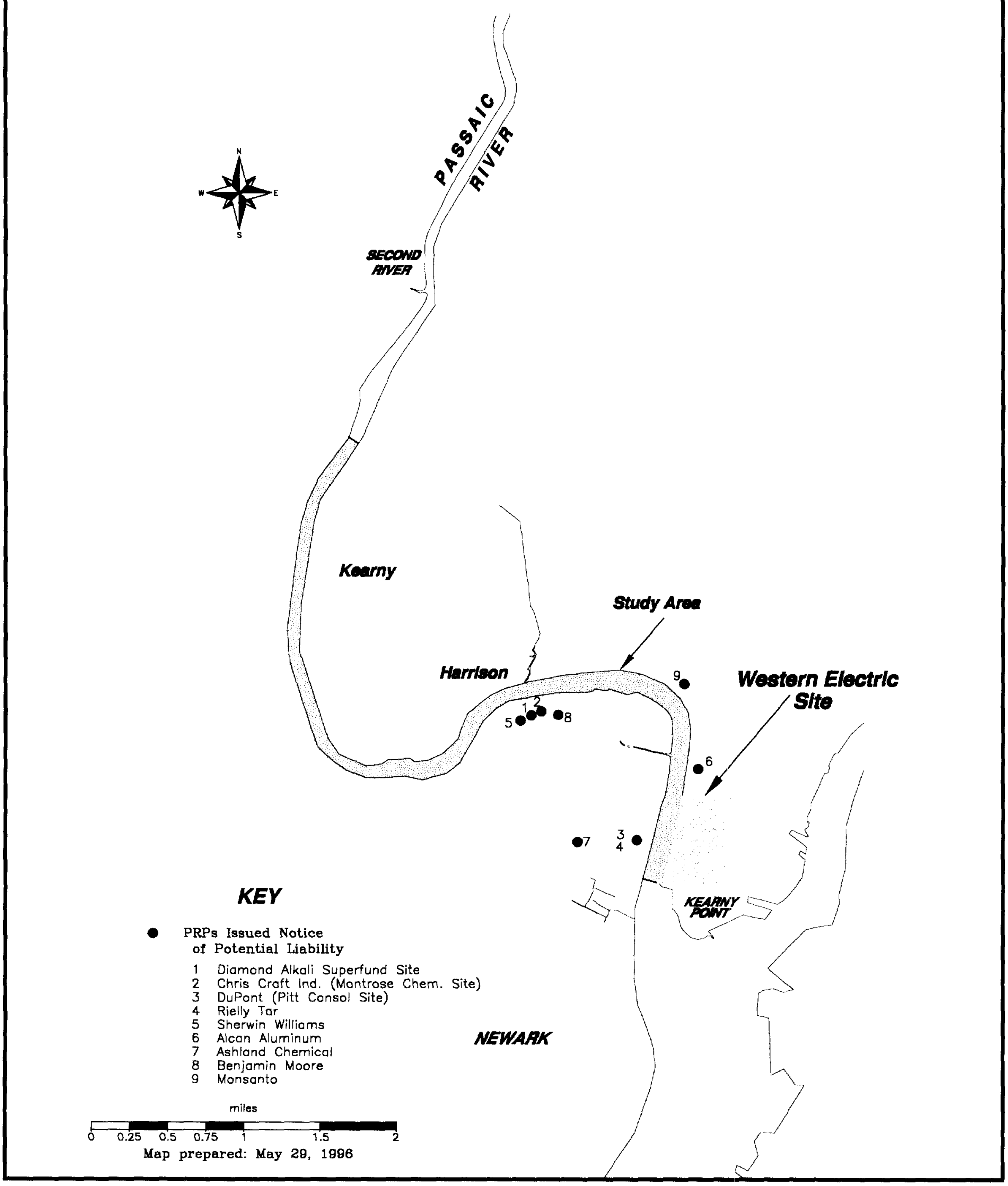

Figure 1

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3.2 Products and Operation

Historically the Western Electric facility manufactured and assembled numerous products that were utilized in the telecommunications industry. It is also believed that Western Electric manufactured various products utilized by Unites States Armed Forces during and post World War II. The known and suspected products manufactured and assembled at the this facility include the following (Exhibits #1, #4, #5 and #6):

Known Products

- Telecommunication Equipment (connectors, test sets, relays, etc.)
- Transformers
- Insulated Cable/Wire
- Screws and Bolts
- Telephone Switch Boards

Suspected Products

- Shell Casings
- Nike Missile Parts
- Two Way Radios
- Torpedo Parts
- PT Boats

Manufacturing Processes

Documented manufacturing processes utilized at this facility included (Exhibit #6, #7 and #8):

- Plating operations/metal finishing (including gold, copper, zinc and nickel-chrome plating).
- Telephone wire/cable insulating via the use of lead, tar, polyvinyl chloride, polyethylene and paper insulation.
- Machining of parts and metal fabrication.
- Spray painting.
- Electrical testing.

3.3 Raw Materials and Wastes

Raw materials used/generated in the manufacturing of these products included the following (Exhibits #8 and #9):

- ammonia
- boric acid
- Carbon tetrachloride
- chlorofluorocarbon
- chromium trioxide
- copper
- cutting oils
- dibasic ammonium citrate
- fluoboric acid
- flux
- freon
- hydrochloric acid
- lacquer and thinner
- lead fluoborate
- mercury
- nickel chloride
- nickel sulfate
- nitric acid
- PCBs
- paints and sludges
- perchloroethylene
- phosphoric acid
- potassium cyanide
- potassium hydroxide
- silver cyanide
- sodium cyanide
- sodium dichromate
- sodium hydroxide
- sulfuric acid
- trichloroethylene
- 1,1,1 trichlorethane
- varnish
- varsol
- zinc cyanide
- zinc

Prior to approximately 1973 plating waste water generated at the facility was reportedly treated and discharged to the Passaic River via a connection to the facility storm sewer lines. It is not known what type of treatment, if any, was applied to the plating waste water prior to being discharged to the Passaic River (Exhibit #5).

According to a Western Electric former employee, a waste water treatment plant was completed at the facility in approximately 1973 to treat the waste water generated by the facility's plating operations (Exhibit #5). However, a compliance monitoring report prepared by the Interstate Sanitation Commission states that the treatment plant was completed in 1975 (Exhibit #10). The treated waste water was discharged to the Passaic River under NPDES permit (No. NJ0020443) issued August 1, 1979 (Exhibit #10 and #11).

AT&T has conducted several environmental investigations and prepared cleanup plans for the Western Electric facility in response to the closing of the facility under the New Jersey Environmental Cleanup Responsibility Act (ECRA) . These investigations at the facility indicate wide spread soil contamination with heavy metals, TPH, PCBs and volatile organic compounds (VOCs). (Semi-volatile organic compounds were not apparently sampled for at the facility.) Facility groundwater was also found to be contaminated with a variety of VOCs, heavy metals, TPH and PCBs (Exhibit #12). It should be noted that a copy of AT&T's sampling location map for the facility is located behind the exhibits.

AT&T had provided NJDEP with a "Site Plan-Bulk Storage & Transfer" map that locates the drum and tank storage areas (Exhibit #8). Based on this map the Western Electric facility had a total of 38 underground storage tanks containing oils, gasoline and paint thinner. In addition the facility maintained over 20 aboveground storage tanks containing various petroleum products and hazardous wastes. The Western Electric facility had a total storage capacity of approximately 1,065,426 gallons of raw materials and waste.

There are a total of three drum storage areas according to the site plan-bulk storage map. Two of the drum storage areas, "OP New Material" and "OP Waste Drum Storage", are located at the south end of the facility. The third drum storage area, "Acid Yard Drum Storage" is located between building 73 and the Passaic River. It should be noted that the area surrounding the "OP Waste Drum Storage" has been the subject of ECRA remediation due to extensive soil and groundwater contamination (Exhibit #12 and #13).

4.0 DISCHARGE HISTORY

The former Western Electric facility has historically discharged hazardous substances to the Passaic River through the following known and suspected mechanisms:

- <u>Direct process waste discharge to the river via storm sewers</u> as stated by a former employee (Exhibit #5). Prior to construction of the facility waste water treatment plant in 1973, process waste water generated from plating operations was treated and discharged to the Passaic River via the facility storm sewer system. It is not known what type of treatment, if any, was applied to the plating waste water prior to being discharged to the Passaic River.

- <u>Hazardous substance discharge to the river via potential spillage within two drum storage areas drained to the river</u> (Exhibit #5). A former employee of Western Electric stated that each of the two drum storage areas located at the southern end of the facility contained a drain. The two drains discharged to the Passaic River through the facility storm sewers. It should be noted that the NJDEP has investigated one of these former drum storage area and found eleven (11) drains located within the storage areas with unknown discharge points. NJDEP detected levels of VOCs in one of the drains and requested that AT&T determine the discharge points and locations of the outfalls of these drains via plumbing diagrams and dye testing. AT&T subsequently provided the NJDEP with documentation that the contamination found in the drains was remediated, but no information has been obtained indicating that AT&T has fulfilled the request to determine the discharge points of these drains (Exhibits #13 and #14).

- <u>Potential process waste and spills discharged to the river via floor drains</u> believed to be located in some of the manufacturing and assembly buildings (Exhibit #15 and #7). A 1992 sanitary and storm sewer map prepared by the RSL Consulting Engineers P.C. displays Kearny Point and the former Western Electric facility and its various building. The map identifies storm sewers being located within several of the Western Electric buildings that discharge to the Passaic River. Process waste and/or spills could have been discharged to the Passaic River via these storm sewers.

- <u>On-Site Contaminated Soil or Media Transported to the Passaic River via Surface Water/Flooding.</u> An extensive network of storm sewers, catch basins and outfalls existed at the facility that discharge to the Passaic River (Exhibits #5, #11, #12 and #15). According to the Environmental Cleanup Plans for the Western Electric facility, contamination was detected in site soils and several catch basin sediments including in and around the drum storage areas. The contaminants detected in soil and sediment included: heavy metals, PCBs, VOCs and petroleum hydrocarbons. The fact that contamination was detected in both the soil and storm water catch basin sediments indicate that hazardous substances have historically been discharged to the river as stormwater runoff and erosion during Passaic River flooding events.

- <u>Migration of contaminated groundwater which discharges to the Passaic River</u>. Groundwater at the site is contaminated with VOCs, PCBs and PHCs. Water table configuration diagrams which are included in Exhibit #16 indicate radial groundwater flow from this area, providing for potential migration of these contaminants to the Passaic River (Exhibit #12 and #16).

5.0 DETECTED ENVIRONMENTAL CONTAMINANTS

Sediment sampling was conducted at locations in the Passaic River adjacent to the former Western Electric facility (See Figure #2.) Sample analytical data is provided in the documents, Analytical Data Summary Tables - Passaic River Study Area Remedial Investigation dated April 1996 and Addendum to Analytical Data Summary Tables Related to Passaic River Study dated January 13, 1994. Sediment samples were collected in the Passaic River from five locations adjacent to the facility as summarized in the table below.

Sample Core Number	Sampling Date	Sample Location
203	1995	South End of Site Near Outfall 001
206	1995	Central Portion of Site Near Outfalls 004 & 005
209	1995	North End of Site Near Outfall 006
96	1993	South End of Site Near Outfall 001
97	1993	North End of Site north of Outfall 006

Sediments were analyzed for the presence of organic and inorganic constituents. The results of these analyses are summarized in the following sections. Only those constituents that are known to have been associated with the former Western Electric site are included.

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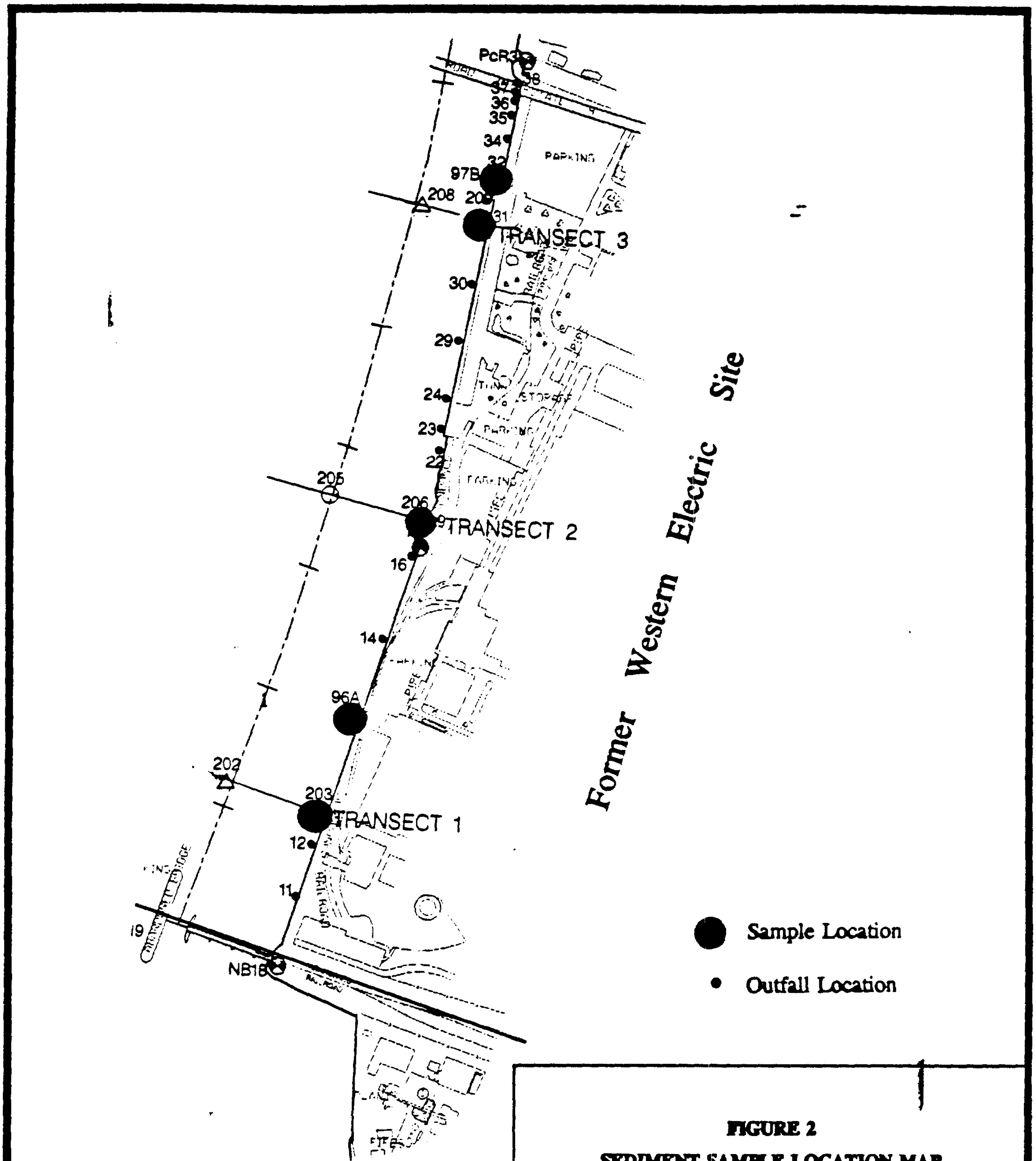

FIGURE 2

SEDIMENT SAMPLE LOCATION MAP

PASSAIC RIVER STUDY AREA
WESTERN ELECTRIC FACILITY

5.1 Inorganics

Analysis for inorganic compounds including metals and cyanide were conducted on sediment samples collected in 1995; analysis only for metals was conducted on samples collected in 1993. The following table summarizes peak concentrations of selected inorganic compounds detected within each sampling core. Concentrations of arsenic, cadmium, copper, cyanide, lead, magnesium, mercury, nickel, selenium, silver and zinc were among those detected.

Of these detected contaminants, copper, cyanide, lead, mercury, nickel, silver and zinc are known to have been utilized by Western Electric at this site. Each of these contaminants was detected at elevated concentration in both site soil and Passaic River sediment, indicating that discharge of these contaminants from the former Western Electric site to the Passaic River Study Area has occurred.

Arsenic, cadmium, magnesium, and selenium are suspected as having been utilized at the site due to their common use in the electronics industry. Each of these contaminants was detected at elevated concentration in site soil[1]. Each of these contaminants was likewise detected at elevated concentration in Passaic River Study Area sediments, indicating that discharge of these contaminants from the former Western Electric site to the Passaic River Study Area has occurred. It should be noted that the detected concentration of magnesium in sediment core #206 (60,000 mg/kg) exceeds all other concentrations detected in the Passaic River Study Area by one order of magnitude.

1 With the exception of magnesium, which was not analyzed for by Western Electric during previous soil sampling investigations at the site.

SUMMARY OF PASSAIC RIVER SEDIMENT INORGANICS DATA WESTERN ELECTRIC SITE

CONTAMINANT	SITE USE	CONC. IN SITE SOILS	CONC. IN PASSAIC R. CORE #203	CONC. IN PASSAIC R. CORE #206	CONC. IN PASSAIC R. CORE #209	CONC. IN PASSAIC R. CORE #96	CONC. IN PASSAIC R. CORE #97
Arsenic (mg/kg)	Suspected; used in electronics industry	1,200	34.9	106	62.3	67.8	60.1
Cadmium (mg/kg)	Suspected; common metal plating ion	20	21.5	20.3	22.1	19	9.2
Copper (mg/kg)	Copper plating operations	2,300	652	633	707	4,700	366
Cyanide (mg/kg)	Plating Solutions; Silver, Sodium, Zinc and Potassium Cyanide documented on site	160	1.1	ND	1.5	NA	NA
Lead (mg/kg)	Lead Cable Mfg., Lead Fuoborate documented on site	3,000	753	722	740	694	400
Magnesium (mg/kg)	Suspected; used in electronics industry	NA	9,610	60,000	8,190	8,900	8,690
Mercury (mg/kg)	Mfg. of mercury relays	3.1[1]	20.4	27.8	18.9	8.1	7.2
Nickel (mg/kg)	Nickel Plating operation	510	124	147	81	76.1	54.1
Selenium (mg/kg)	Suspected; used in electronics industry	10	2.1	4.2	4.3	4.1	3.2
Silver (mg/kg)	Silver Cyanide documented on site	29	15.7	12.6	13.1	15.4	ND
Zinc (mg/kg)	Zinc Plating operation	13,000	1,680	1,580	1,170	1,200	770

ND = Not Detected
NA = Not Analyzed For

5.2 Organics

Analysis for organic compounds was conducted on each of the sample cores. Concentrations of bis(2-ethyl hexyl)phthalate, PCBs, petroleum hydrocarbons, toluene, benzene, xylene, MEK, carbon disulfide and chlorobenzene were among those detected.

Of these detected contaminants, PCBs, petroleum hydrocarbons, toluene, benzene, and xylene were known to be utilized by Western Electric at this site. Each of these contaminants was detected at elevated concentration in site soil[2]. Each of these contaminants was likewise detected at elevated concentration in Passaic River Study Area sediments, indicating that discharge of these contaminants from the former Western Electric site to the Passaic River Study Area has occurred.

Bis(2-ethyl hexyl)phthalate, MEK, carbon disulfide and chlorobenzene are suspected as having been utilized by Western Electric at the site due to their common use in applications such as PVC cable coating operations, and use as common paint solvents/components. Each of these contaminants were detected at elevated concentration in Passaic River Study Area Sediments. Chlorobenzene was the only contaminant of this group analyzed for in site soil based on the documents reviewed, and was detected at elevated concentration.

The following table summarizes peak concentrations of selected organic compounds detected within each sampling core.

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2 With the exception of xylene, which was not analyzed for by Western Electric during previous soil sampling investigations at the site.

SUMMARY OF PASSAIC RIVER SEDIMENT ORGANICS DATA WESTERN ELECTRIC SITE

CONTAMINANT	SITE USE	CONC. IN SITE SOILS	CONC. IN PASSAIC R. CORE #203	CONC. IN PASSAIC R. CORE #206	CONC. IN PASSAIC R. CORE #209	CONC. IN PASSAIC R. CORE #96	CONC. IN PASSAIC R. CORE #97
Bis (2-Ethyl Hexyl) Phthalate (ug/kg)	Suspected in PVC cable coating operation	NA	280,000	140,000	200,000	120,000	16,000
PCBs (Total) (ug/kg)	PCB-containing transformers; PCB oil storage at site	89,000	4,920	7,690	6,850	8,730	997
Petroleum Hydrocarbons (ug/kg)	Fuel oils and other petroleum-based product usage	2,800,000	1,720,000	1,320,000	959,000	1,700,000	1,940,00
Toluene (ug/kg)	Gasoline and related product use	48,000	ND	ND	28	ND	5
Benzene (ug/kg)	Gasoline and related product use	1,600	ND	ND	37	22	ND
Xylene (ug/kg)	Gasoline and related product use	NA	130	120	280	160	71
MEK (2-Butanone) (ug/kg)	Suspected in Paint Operations	NA	91	ND	240	110	120
Carbon Disulfide (ug/kg)	Suspected in Paint Operations	NA	39	ND	40	8	ND
Chlorobenzene (ug/kg)	Suspected in Paint Operations	270	67	33	ND	24	ND

ND = Not Detected
NA = Not Analyzed For

6.0 SUMMARY

The evidence presented in this document indicates that discharges of hazardous substances from the former Western Electric facility to the Passaic River Study Area have occurred. These discharges of hazardous substances have negatively impacted the Passaic River sediments. This finding is supported by the following evidence:

- Numerous hazardous substances have been stored, used and/or produced at the former Western Electric facility during Western Electric's tenancy.
- There are several known and documented discharge pathways to the Passaic River Study Area from the former Western Electric facility.
- The historic discharge of hazardous substances from the former Western Electric facility to the Passaic River Study Area has been documented.
- Hazardous substance similar to those known to have been used at the Western Electric Facility are present in Passaic River Study Area sediments.

Based on the evidence presented, Western Electric and its' relevant successors-in-interest should be named as Potentially Responsible Parties for the Passaic River Study Area

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Western Electric press release dated January 27, 1983.

- Establishes dates of occupancy and product history

Western Electric

news

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FOR RELEASE: January 27, 1983 10:00 A.M.

WESTERN ELECTRIC ANNOUNCES FACILITY UTILIZATION PLANS; WILL PHASE OUT ONE PLANT, REDUCE OTHER OPERATIONS

The Western Electric Company today announced plans to phase out its Kearny (N.J.) Works and reduce operations at other locations that will include the Baltimore (Md.) Works and Hawthorne Works near Chicago. The actions at the facilities will occur in stages over several years.

Today's actions are part of a long-term plan for reducing manufacturing capacity to improve plant utilization and to reduce overall costs. This will result in a cost of $625 million and an after-tax charge of $317.6 million against 1982 fourth quarter earnings.

"This is essential to maintain our strength and capability to respond to fundamental changes in the telecommunications business, Donald E. Procknow, President of Western Electric, said. The Company faces increased competition and continuing changes in demand for its products and services.

Some 6,700 employees are affected by the actions announced today, about five percent of the Company's work force of 136,000. Due to the phased nature of the actions, attrition will help absorb reductions. However, some layoffs are expected.

The Kearny Works, established in 1925, employs about 4,000 people. They are involved mainly in the production of systems to convert commercial power to run different types of telecommunications equipment, and in the manufacture of connectors, test sets, relays and other apparatus. The location also runs a metalworking shop.

In other reductions, the outside plant apparatus shop at the Baltimore Works and pulp cable manufacturing operations at the Hawthorne Works in Cicero, Ill., are slated for shutdown in phases. As many as 2,300 jobs will be phased out in Baltimore; another 400 positions at the Cicero facility likewise will be reduced over a period of a year or more.

"It's extremely painful to take these actions because of the good employees and the fine communities that will be affected," Mr. Procknow said. "We must, however, face realities in order to remain the best in our field. Increasing competition requires that we continue efforts to reduce overall costs and improve efficiencies. In addition, the stagnant economy and changes in our manufacturing processes heighten the need to make the most efficient use of our resources. We are taking action now to ensure that Western Electric remains healthy in the new and very different future we are entering."

Western Electric will take steps to minimize the impact of its actions on employees. In past shutdowns and major consolidations, company assistance has ranged from offering transfers and reassignments to the provision of early retirement supplements, job search help and layoff allowances granting as much as 104 weeks of pay.

Discussions with respect to the treatment of affected employees are taking place with the unions representing them. Meanwhile, assistance procedures and programs are being developed for non-union represented people geared to giving employees as many options as practicable, including transfers and reassignments.

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AT&T letter dated May 24, 1984, to Anthony J. McMahon, Chief Bureau of Industrial Site Evaluation NJDEP and copy of Agreement between AT&T and Union Minerals and Alloy Corp. dated April 16, 1984.

- Establishes Site ownership.

AT&T
Technologies Inc.

May 24, 1984

Anthony J. McMahon, Chief
Bureau of Industrial Site Evaluation
New Jersey Department of Environmental Protection
32 East Hanover Street CN028
Trenton, New Jersey 08625

Re: Kearny Works

Dear Mr. McMahon:

In response to your letter of March 5, 1984, AT&T Technologies, Inc. (formerly Western Electric Company, Incorporated) hereby submits the information requested. Enclosed please find two copies of "Environmental Evaluation Measurement Plan - Kearny Works" prepared by Environmental Research and Technology, Inc. This plan is a detailed sampling and environmental evaluation measurement plan in response to item 8 on the check list enclosed with your letter.

In response to item 1 of your checklist, the SIC code of the Kearny Works is 3661. The latitude (40°43' 24.362"N) and longitude (74°06' 48.684"W) has been determined from information on a U. S. Coast and Geodedic survey marker located in the northeasterly portion of Building 30.

This will further advise you that on May 21, 1984, AT&T Technologies, Inc. executed a contract to sell this property to Union Minerals and Alloys Corporation, 380 Madison Avenue, New York, New York. A copy of the Agreement is enclosed.

Based upon your letter, and with the submission of this additional information, we believe that the Bureau can begin its review. If, during the course of the review, clarification or additional information is necessary, please feel free to contact Mr. G. C. (Chris) Tranchetti, Kearny's Senior Environmental Control Engineer at (201) 465-5445.

Very truly yours,

Thomas A. Mulhern

T. A. MULHERN, P. E.
Energy and Environmental
Engineering Manager

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AGREEMENT FOR THE SALE
AND PURCHASE OF REAL ESTATE

AGREEMENT, dated as of the 16th day of April, 1984, between AT&T TECHNOLOGIES, INC., a New York corporation with its principal office at 222 Broadway, New York, New York 10038 ("Seller"), and UNION MINERALS AND ALLOYS CORP., a New York corporation having an office at 380 Madison Avenue, New York, New York 10017 ("Buyer");

W I T N E S S E T H :

That for and in consideration of the mutual promises, covenants and agreements hereinafter contained, the parties hereto, intending to be legally bound, hereby covenant, promise and agree as follows:

Section 1. Property. Seller hereby agrees to sell and convey to Buyer, and Buyer hereby agrees to purchase from Seller, upon the terms and conditions hereinafter set forth, all those certain plots, pieces and parcels of land, with the buildings and improvements thereon erected, situate, lying and being in the Town of Kearny, County of Hudson, and State of New Jersey, located at Central Avenue and Route 1 and 9, containing 150 acres of land, more or less, and 2.89 million square feet of building area, more or less, as more particularly described in Exhibit A annexed hereto and made a part hereof (collectively, the "Premises"). In addition to the Premises, this sale includes the following:

(a) all fixtures, machinery, systems, apparatus, equipment, and facilities attached or appurtenant to the Premises, including, without limitation, all plumbing, lighting, compressed air, steam, electrical, heating, ventilating and air conditioning systems and elevators (collectively, the "Included Equipment"), it being understood, however, that the Included Equipment does not include manufacturing machinery, or manufacturing equipment, used by Seller to produce goods sold in the regular course of Seller's business unless removal of the same would impair the integrity (structural or otherwise) of any building or any plumbing, lighting, compressed air, steam, electrical, heating, ventilating or air conditioning system, or any elevator, therein (such manufacturing machinery and manufacturing equipment not included being collectively referred to as the "Excluded Equipment");

(b) all right, title and interest, if any, of Seller in and to any strips or gores adjoining or adjacent to the Premises;

(c) all right, title and interest, if any, of Seller in and to the submerged lands adjoining or adjacent to the Premises;

(d) all right, title and interest, if any, of Seller in and to any land lying in the bed of any street, road or avenue opened or proposed, in front of or adjoining the Premises, to the center line thereof, and all right, title and interest of Seller in and to any award made or to be made in lieu thereof and in and to any unpaid award for damage to the Premises by reason of change of grade of any street;

(e) all easements, rights, and agreements which benefit or in any way pertain to the Premises; and

(f) all right, title and interest, if any, of Seller in, to and under any manufacturer's or contractor's warranty or guaranty covering the Premises, the Included Equipment, any part of the Premises or the Included Equipment, or any work performed at the Premises, subject to the provisions of Section 13 hereof;

all of the foregoing, together with the Premises, being herein collectively referred to as the "Property".

Section 2. <u>Purchase Price</u>. A. The purchase price for the Property is

subject to adjustment for apportionments as provided in Section 10 hereof (the "Purchase Price"). The Purchase Price shall be paid at the Closing (as such term is hereinafter defined) by certified or bank cashier's check to the order of Seller.

B. As security for the performance by Buyer of Buyer's obligations hereunder, Buyer is delivering to Seller concurrently with the execution and delivery of this Agreement, and Seller acknowledges the receipt whereof, an irrevocable bank letter of credit in the amount of

a copy of which is annexed hereto as Exhibit B (the "Letter of Credit"). At any time and from time to time Buyer may substitute cash for the Letter of Credit, <u>provided</u> that, immediately after the substitution, the sum of the amount of the replacement or modified Letter of Credit and any cash deposited with Seller shall be not less than the amount of the original Letter of Credit. In the event that Seller is ready, willing and able to perform each and every obligation on its part to be performed hereunder, each representation and warranty made by Seller herein is true and correct, and Buyer shall have defaulted in the performance of its obligation to pay the Purchase Price as and when due and payable hereunder, then Seller shall so certify to the issuer of the Letter of Credit, with a counterpart of such certifica- tion to be sent simultaneously by Seller to Buyer in the manner provided in Section 17 hereof, and Seller may thereafter draw upon the Letter of Credit; any cash realized upon such drawing, together with any cash theretofore deposited with Seller hereunder and any interest earned, shall be applied in accordance with the provisions of Section 8 hereof. Except as expressly provided in the preceding sentence, Seller shall not draw upon the Letter of Credit. Cash at any time held by Seller hereunder shall be deposited in a bank account in New York City with The Chase Manhattan Bank, N.A. which shall bear interest at the maximum amount payable from time to time for 30-day deposits. As used herein, the term "Initial Payment" shall mean the Letter of Credit and any cash deposited with Seller hereunder (whether as a result of drawing on the Letter of Credit, payment of interest, or otherwise). At the Closing, the Initial Payment shall be delivered by Seller to Buyer except that, at Buyer's option, any cash then held by Seller

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and/or the amount of the Letter of Credit then held by Seller shall be credited against the Purchase Price payable at Closing.

Section 3. Title Insurance Report; Survey.

A. (1) Seller shall give and Buyer shall accept a good and marketable title of record such as Lawyers Title Insurance Corporation and any other title company designated by Buyer (collectively, the "Title Company") would be willing to approve and insure, subject only to the matters set forth in Paragraph A of Section 5 hereof and in Subparagraph (2) of this Paragraph A, without special premium or charge.

(2) The following matters may be expressly excluded from coverage under the Title Report hereinafter referred to:

(i) Any law, ordinance or governmental regulation (including but not limited to building and zoning ordinances) restricting or regulating or prohibiting the occupancy, use or enjoyment of the land, or regulating the character, dimensions or location of any improvement now or hereafter erected on the land, or prohibiting a separation in ownership or a reduction in the dimensions or area of the land, or the effect of any violation of any such law, ordinance or governmental regulation;

(ii) Rights of eminent domain or governmental rights of police power unless notice of the exercise of such rights appears in the public records at date of policy; and

(iii) Defects, liens, encumbrances, adverse claims, or other matters (a) created, suffered, assumed or agreed to by the insured claimant; (b) not known to the Title Company and not shown by the public records but known to the insured claimant either at date of policy or at the date such claimant acquired an estate or interest insured by the policy and not disclosed in writing by the insured claimant to the Title Company prior to the date such insured claimant became an insured; (c) resulting in no loss or damage to the insured claimant; (d) attaching or created subsequent to date of policy; or (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the estate or interest insured by the policy;

provided, however, that the provisions of the preceding Subparagraph (1) and this Subparagraph (2) shall in no way ~~limit or~~ affect the provisions of Sections 5 and 6 hereof, and the foregoing matters set forth in clauses (i), (ii) and (iii) may not be excluded from coverage under the Title Report if and to the extent deemed by Title Company, Buyer or Buyer's counsel to be pertinent in any way to the matters which are the subject of Paragraph C or Paragraph D of Section 5 hereof.

(3) After receipt of a counterpart of this Agreement duly executed by Seller, Buyer will order (x) a title report (the "Title Report") from Title Company covering the Premises and (y) a survey of the Premises (the "Survey"). Buyer will request that the surveyor certify the Survey to Seller, Buyer, Title Company and any other person designated by Buyer. Buyer will request that Title Company deliver a duplicate copy of the Title Report, and that the surveyor deliver a duplicate print of the Survey, to Seller at 222 Broadway, New York, New York 10038 Attention: Alan Chesler, Esq.

B. Not more than thirty (30) days after Buyer has received both (i) its copy of the Title Report from Title Company and (ii) a print of the Survey showing, among other things, all easements, reservations, restrictions, covenants, conditions and agreements of record affecting the Premises, Buyer or Buyer's counsel will give Seller notice of (1) any objection to title or other matter appearing in such Title Report, or on the Survey, which Buyer is entitled to object to and is unwilling to waive and (2) any condition provided for in Subparagraph (1) of Paragraph D of Section 5 hereof which has not been satisfied by provision in the Title Report acceptable to Buyer and Buyer's counsel in all respects. If (and only if) Buyer fails to give Seller such notice, then Buyer shall be deemed to have waived its rights under this Section, or under Subparagraph (1) of Paragraph D of Section 5 hereof, as the case may be, but solely with regard to (x) the objections to title and other matters expressly appearing in the Title Report, or on the Survey, as to which notice (general or specific) has not been given, and (y) the conditions provided for in Subparagraph (1) of Paragraph D of Section 5 hereof as to which notice (general or specific) has not been given, and in no event shall Buyer be deemed to have waived any matter which is the subject of, or any of its rights under, Paragraph C of Section 5 hereof. Buyer's obligations under this Paragraph B shall be restricted to the giving of a single notice as aforesaid and Buyer shall not be obligated to give any supplemental notice in the event the Title Report or the Survey is supplemented or modified, or in any other event.

C. Not more than thirty (30) days after Buyer has received all of the items referred to in clauses (i) and (ii) of the first sentence of Paragraph B of this Section 3 and a photocopy of the "cleanup plan" or "negative declaration", approved by the New Jersey Department of Environmental Protection, as referred to in Paragraph (1) of Section C of Section 5 hereof, Buyer or Buyer's counsel will give Seller notice of any condition provided for in Subparagraph (2) of Paragraph D of Section 5 hereof which has not been satisfied by provision in the Title Report acceptable to Buyer and Buyer's counsel in all respects. If (and only if) Buyer fails to give Seller such notice, then Buyer shall be deemed to have waived its rights under this Section, or under Subparagraph (2) of Paragraph D of Section 5 hereof, as the case may be, but solely with regard to the conditions provided for in Subparagraph (2) of Paragraph D of Section 5 hereof as to which notice (general or specific) has not been given, and in no event shall Buyer be deemed to have waived any of its rights under Paragraph C of

Section 5 hereof. Buyer's obligations under this Paragraph C shall be restricted to the giving of a single notice as aforesaid and Buyer shall not be obligated to give any supplemental notice in the event the Title Report is supplemented or modified, or in any other event.

Section 4. Closing. A. The closing ("Closing") hereunder shall be held at the offices of Messrs. Guggenheimer & Untermyer, 80 Pine Street, New York, New York (except to the extent otherwise provided in clause (2) of Paragraph B of this Section 4), at 10:00 A.M. New York City Time on September 5, 1984, or at such other date and place as the parties may agree upon. Each party shall be entitled to one or more adjournments of the Closing hereunder; provided, however, that (1) neither party shall be entitled to adjourn the Closing to a date later than December 31, 1984 without the prior written consent of the other, time being of the essence with respect to the consummation of the Closing on or before December 31, 1984, and (2) if and when Seller is ready, willing and able to perform all of the obligations to be performed by it at or prior to Closing and all conditions precedent to Buyer's obligations hereunder have been satisfied, Seller may give Buyer a notice electing that the Closing be consummated on a date specified in such notice (the "Notice Date"), which Notice Date shall be (x) not sooner than the later of September 5, 1984 or the thirtieth (30th) day from and after the date such notice is given and (y) not later than December 20, 1984, and, in the event such notice is given duly, the provisions of this sentence which precede this clause (2) shall be inapplicable and the Closing shall be consummated on the Notice Date unless either party elects to adjourn the Closing to a date no later than the seventh (7th) day from and after the Notice Date, time being of the essence with respect to the obligation of each party to close on the date after the Notice Date to which adjournment is made as aforesaid.

B. At the Closing:

(1) Seller shall deliver to Buyer (i) the Deed provided for in Section 6 hereof, (ii) the Bill of Sale provided for in Section 12 hereof, (iii) the items provided for in Paragraph A of Section 9 hereof, (iv) the Initial Payment (except to the extent credited against the Purchase Price as provided in Section 2 hereof), (v) possession of the Premises, and (vi) the items provided for in Paragraph E of Section 5 hereof;

(2) Seller shall deliver to Buyer, at one or more locations at the Premises reasonably agreed upon by Seller and Buyer prior to the Closing, all plans, specifications, surveys, keys and drawings pertaining to the Property in Seller's possession or available to Seller, now or at such time (but without representation or warranty by Seller as to the accuracy or completeness of any such plan, specification, survey or drawing), subject to the provisions of Section 13 hereof;

(3) Seller shall deliver to Buyer and to Title Company such affidavits of title and other customary documents and instruments as Buyer and Title Company may reasonably require;

(4) Buyer shall pay to Seller the Purchase Price (less any credit on account of the Initial Payment) as provided in Section 2 hereof; and

(5) Seller and Buyer shall deliver to each other the Lease provided for in Section 13 hereof.

Section 5. Title. A. The Premises are sold and are to be conveyed subject only to the following:

(i) Zoning laws and ordinances affecting the Premises,

(ii) Any state of facts which an accurate survey of the Premises may show, and

(iii) Any easements, reservations, restrictions, covenants, conditions or agreements of record affecting the Premises;

provided, however, that with respect to each matter provided for in the preceding clause (ii) or clause (iii) the same does not and will not (x) render title unmarketable or (y) substantially impair or restrict the use and occupancy of the Property by any person for heavy manufacturing, warehousing, office use and/or other uses incidental thereto, and provided, further, that with respect to each matter provided for in the preceding clause (iii) the same does not provide for forfeiture or reverter of the Premises or any part thereof in the event of violation.

B. All notes or notices of violations of any law, code, ordinance, regulation, rule, requirement, order or restriction, noted in or issued by any municipal, county, state or Federal department or authority having jurisdiction over the Property, against or affecting the Property at or prior to the date of Closing, shall be complied with by Seller at or prior to the date of Closing, and the Property shall be conveyed free of the same. Notwithstanding the provisions of the first sentence of this Paragraph B, but without affecting the provisions of the third sentence of this Paragraph B, if Seller is unable to perform its obligations under this Paragraph B at or prior to Closing with the exercise of diligent effort, it shall not be deemed in default under this Paragraph B by reason thereof, but it shall nevertheless perform such obligations within a reasonable time (but in no event more than one hundred and eighty (180) days) after the Closing. Seller agrees to and does hereby indemnify and hold harmless Buyer, its successors and assigns, of and from any and all loss, cost, liability, claim, damage and expense (including, without limitation, attorney's fees and disbursements, penalties and fines) arising at any time by reason of, or in connection with, any failure by Seller to perform its obligations under the first sentence of this Paragraph B at or prior to Closing. The provisions of this Paragraph B shall survive the Closing.

C. (1) Without limiting the generality of any provision of this Agreement, but subject to the provisions of Subparagraph (3) of this Paragraph C, Seller agrees with Buyer as follows:

(a) the Premises will be conveyed at Closing free and clear of any and all riparian or other rights or claims of the State of New Jersey; and

(b) As and when required by applicable law, codes, rules and regulations, but in any event prior to Closing, Seller, at its sole cost and expense, will (i) in accordance with the New Jersey Environmental Cleanup Responsibility Act, P.L. 1983, c. 330 (N.J.S.A. 13:1k-6 et seq.), obtain approval by the New Jersey Department of Environmental Protection of a "cleanup plan", or a "negative declaration", for the Premises, (ii) perform all work at any time required in connection with such plan and furnish Buyer with evidence, acceptable to Buyer and Buyer's counsel in all respects, of final, satisfactory inspection by said Department of Environmental Protection, and (iii) otherwise comply with said New Jersey Environmental Cleanup Responsibility Act insofar as pertinent to the Premises.

(2) In the event that Seller does not perform any one of its obligations under Subparagraph (1) of this Paragraph C and this Agreement has not been terminated under the provisions of Subparagraph (3) of this Paragraph C, Buyer shall not be obligated to pay the Purchase Price (such obligation being dependent upon Seller's performance of such obligations, among others) and Buyer shall be entitled to the remedy of specific performance, but in such event Buyer shall not be entitled to money damages pursuant to the provisions of Paragraph B of Section 8.

(3) (a) In the event that at any time Seller shall reasonably (i) estimate that the out-of-pocket cost to Seller of performing its obligations under Subparagraph (1) of this Paragraph C would be unreasonable (a "Cost Estimate") or (ii) estimate that Seller's obligations under Subparagraph (1) of this Paragraph C cannot be performed on or before December 15, 1984 (a "Time Estimate"), then, and in either such case, Seller shall promptly (but in no event later than December 15, 1984) give Buyer notice of such estimate (the "Estimate Notice"). After a "cleanup plan" has been approved by the New Jersey Department of Environmental Protection, the Cost Estimate shall not include any cost to Seller of performing its obligations under clause (b) of Subparagraph (1) of this Paragraph C.

(b) If Seller shall duly have given the Estimate Notice and such notice specifies a Cost Estimate, then Seller shall have the right to terminate this Agreement by stating its election to terminate in the Estimate Notice (but not thereafter).

(c) If Seller shall duly have given the Estimate Notice and such notice specifies a Time Estimate, then, provided that Seller shall have made diligent effort to perform its obligations under Subparagraph (1) of this Paragraph C but shall nevertheless have failed to perform such obligations on or before December 15, 1984, Seller shall have the right to terminate this Agreement by giving notice of such election to terminate to Buyer on or before December 20, 1984.

(d) If Seller shall have given to Buyer notice of election to terminate this Agreement under the preceding provisions of this Subparagraph (3) and a "cleanup plan" or "negative declaration", as referred to in Subparagraph (1) of this Paragraph C, shall have been approved by the New Jersey Department of Environmental Protection, then Buyer may nevertheless elect to cancel and make void such election to terminate by giving to Seller notice of Buyer's election on or before December 27, 1984. If Buyer elects to cancel and make void an Estimate Notice which specifies a Cost Estimate as provided in the first sentence of this Subparagraph (3), (i) Buyer shall accept such title as Seller may be able to convey, (ii) the Purchase Price shall be reduced by an equitable amount and (iii) the obligations of Seller after the Closing under Subparagraph (1) of this Paragraph C shall be limited to the obligation of Seller to observe and perform the "cleanup plan" referred to in said Subparagraph (1). If Buyer elects to cancel and make void an Estimate Notice which specifies a Time Estimate as provided in the first sentence of this Subparagraph (3), (x) Buyer shall accept such title as Seller may be able to convey, without reduction of or allowance against the Purchase Price, and (y) the obligations of Seller after the Closing under Subparagraph (1) of this Paragraph C shall be limited to the obligation of Seller to observe and perform the "cleanup plan" referred to in said Subparagraph (1).

(4) Seller shall keep Buyer advised of its progress in obtaining approval by the New Jersey Department of Environmental Protection of a "cleanup plan", or a "negative declaration", as the case may be, as referred to in Subparagraph (1) of this Paragraph C and shall promptly furnish Buyer's counsel with copies of (i) each filing under N.J.A.C. 7:1-3.7 (Initial ECRA notice requirements) and (ii) the "cleanup plan" or "negative declaration", as the case may be.

(5) If the "cleanup plan" referred to in Subparagraph (1) of this Paragraph C shall not have been fully performed at or prior to Closing, then Buyer shall permit Seller and its authorized representatives, agents and contractors to enter the Premises at all reasonable times and from time to time, by prior appointment and subject to such reasonable security regulations as Buyer and Buyer's tenants may establish from time to time, for the purpose of performing its obligations under this Paragraph C. The rights provided in this Subparagraph (5) shall be exercised so as to minimize interference with the use, occupancy and enjoyment of the Property by Buyer, Buyer's tenants and others. Seller shall be fully responsible for any damage caused by entry hereunder and, at its sole cost and expense, shall repair such damage promptly and restore the Premises to their condition prior to such damage; such cost and expense shall be considered in determining the Cost Estimate.

(6) The provisions of this Paragraph C shall survive the Closing.

D. (1) Without limiting the generality of any provision of this Agreement, Seller agrees with Buyer that Buyer's obligations hereunder are contingent upon Title Company's agreement to (x) insure title to the Premises using metes and bounds perimeter descriptions reasonably satisfactory to Buyer and Buyer's counsel, and (y) insure that all parcels comprising the portion of the Premises referred to as Parcel A in Exhibit A annexed hereto and made a part hereof are fully contiguous so as to form a single parcel of land.

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(2) Without limiting the generality of any provision of this Agreement, and notwithstanding anything to the contrary contained in Subparagraphs (1) and (2) of Paragraph A of Section 3 hereof or in any other provision of this Agreement, Seller agrees with Buyer that Buyer's obligations hereunder are contingent upon Title Company's agreement to insure without exception (general or specific) for any riparian, environmental or other right, claim or lien of the State of New Jersey, or any department thereof, as referred to in Paragraph C of this Section 5.

(3) All such agreements referred to in this Paragraph D shall be set forth in the Title Report and shall be acceptable to Buyer and Buyer's counsel in all respects.

E. Seller represents and warrants to and agrees with Buyer that at the Closing Seller will furnish satisfactory assurances to Buyer that no monies are due any utility company furnishing service to the Premises or, if payment cannot with reasonable diligence be made at or prior to Closing, Seller will pay all amounts due within a reasonable time (but in no event more than one hundred and eighty [180] days) after the Closing. The provisions of this Paragraph E shall survive the Closing.

F. Without limiting the generality of any provision of this Agreement, Seller agrees with Buyer that Buyer's obligations hereunder are contingent upon the existence of a state of facts at the time of Closing to the effect that:

(1) Except for a proceeding of the type contemplated under clause (b) of Subparagraph (1) of Paragraph C of this Section 5, there is no litigation or proceeding pending, or to the Seller's knowledge threatened, which relates to title to the Property or which might affect Seller's ability to convey the Property and otherwise to perform its obligations hereunder;

(2) All public utilities (including, without limitation, sewerage, water, electricity, gas, and telephone) required for the operation of the Premises are substantially installed and operable, and all installation and connection charges will have been paid in full, except as noted in Exhibit E annexed hereto and made a part hereof;

(3) The buildings, and all other material improvements upon the Premises, are within the boundary lines of the Premises as described in Exhibit A annexed hereto and made a part hereof, there are no encroachments thereon, and the Premises are situate upon, and have direct access to, Central Avenue and Route 1 and 9;

(4) Title to the Premises is not derived from any act for the sale of land for non-payment of municipal taxes or assessments, or adverse or color of title possession; and

(5) All public utilities, as referred to in clause (2) of this Paragraph F, enter the Premises through adjoining public streets in accordance with valid public

easements and there are no restrictions which would interfere with the furnishing of utility service to the Premises after Closing.

Not more than sixty (60) days after the date upon which Buyer has written notice of a state of facts contrary to that called for by this Paragraph F, Buyer shall give Seller notice of such state of facts.

G. Buyer acknowledges that Seller has advised it that Seller may heretofore have conveyed, to a corporation then affiliated with Seller, a portion (the "10,000 Sq. Ft. Lot") of the Premises which is a rectangular lot having dimensions of approximately 100 feet by 100 feet, located on the boundary of Parcel A at Route 1 & 9 near building 909 which is shown on the plot plan annexed hereto as part of Exhibit A, and having no buildings thereon. Seller agrees that it will use its best efforts to convey to Buyer good and marketable fee simple title of record to the 10,000 Sq. Ft. Lot, free and clear of all liens, caims, encumbrances and adverse interests , subject only to the matters set forth in Paragraph A of Section 5 hereof, as and when herein provided. However, if Seller is unable to do so, at the Closing Buyer shall accept such title to the 10,000 Sq. Ft. Lot as Seller may be able to convey, with an equitable reduction in the Purchase Price of no more than Fifteen Thousand ($15,000) Dollars in order to reflect Seller's failure to convey title as herein provided.

Section 6. Deed. At the Closing, Seller shall deliver to Buyer the usual Bargain and Sale Deed with covenant against acts of grantor (the "Deed"), in proper form for recording under the laws of the State of New Jersey, duly executed, sealed and acknowledged, so as to convey to Buyer good and marketable fee simple title of record to the Property, free and clear of all liens, claims, encumbrances, and adverse interests, subject only to the matters set forth in Paragraph A of Section 5 hereof.

Section 7. Access by Buyer. Prior to Closing Buyer and its representatives, prospective tenants and other invitees shall be permitted access to the Property at any reasonable time and from time to time, on not less than 24 hours' advance notice (orally or in writing) to a representative of Seller designated by Seller or to Seller's Department Chief for Corporate Realty, in order to inspect the same, prepare a survey and take measurements. Seller may require that those persons having access to the Property be accompanied by Seller's representative on the Premises. It is understood that exercise of the permission granted hereunder shall be at the risk of Buyer. Buyer shall indemnify and save Seller harmless from all liabilities, damages, claims and expenses (including reasonable attorney's fees) because of injury, including death, to any person, or damage or loss of any kind, that may occur as a result of Buyer's exercise of the right of access granted under this Section 7. Buyer shall, at all times that it may be upon the Property pursuant to this Section 7, keep in force public liability insurance in good and solvent insurance companies qualified to do business in the State of New Jersey, in limits of at least $1,000,000/ $5,000,000 for bodily injury and $1,000,000 for property damage, covering its liability under this Section 7. Seller shall be named as an additional insured under such insurance and certificates of such insurance shall be delivered to Seller. Buyer's obligations pursuant to this Section 7 shall survive the Closing and any termination of this Agreement.

Section 8. Termination. A. If (1) Seller is unable to convey title in accordance with the terms and provisions of this Agreement, (2) Buyer elects to terminate this Agreement in accordance with the provisions of Section 15 hereof, (3) any of the conditions set forth in Paragraphs D and F of Section 5 hereof, or in Section 16 hereof, have not been satisfied at or prior to the Closing and Buyer shall so advise Seller, or (4) this Agreement is terminated in accordance with the provisions of Paragraph C of Section 5 hereof, then, and in any such event, Seller promptly shall return to Buyer the Initial Payment and shall reimburse Buyer for the costs of examining title and of any survey made in connection therewith, and upon such return and reimbursement this Agreement shall be terminated and neither party shall have any further liability or obligation to the other; provided, however, that Buyer, at its option, may elect at the Closing to accept such title as Seller may be able to convey, without reduction of or allowance against the Purchase Price except if and to the extent otherwise provided herein. Seller shall be permitted to terminate this Agreement by reason of Seller's being "unable to convey title in accordance with the terms and provisions of this Agreement" only if (x) the Premises are encumbered by an easement, reservation, restriction, covenant, condition or agreement which pertains solely to the Premises and surrounding land, (y) such encumbrance cannot be removed by Seller by the expenditure (out-of-pocket) of an amount no more than One Hundred Thousand ($100,000) Dollars, and (z) Seller shall have given Buyer notice of such encumbrance, and of Seller's reasonable estimate of its out-of-pocket cost of removing such encumbrance, promptly after gaining knowledge of the existence of such encumbrance; in particular, but without limiting the generality of any other provision hereof, it is agreed that Seller shall not be deemed "unable to convey title" as aforesaid by reason of any judgment, mortgage, mechanic's, tax or other lien affecting the Premises or any matter of the type referred to in Paragraph C of Section 5 hereof.

B. In the event that Seller shall default in the performance of any of its obligations hereunder or any representation or warranty made by Seller herein shall not be true and correct, then Buyer shall not be obligated to pay the Purchase Price (such obligation being dependent upon Seller's performance of its obligations hereunder and the accuracy of Seller's representations and warranties), and Buyer shall have all such rights and remedies as may be available at law or in equity, including, without limitation, the right to specific performance, provided, however, that Buyer shall in no event be entitled to money damages unless Seller has wrongfully drawn on the Letter of Credit.

C. In the event that Paragraphs A and B of this Section 8 shall not be applicable and Buyer shall default in the performance of its obligation to pay the Purchase Price as and when due and payable hereunder, then the sole remedy of Seller shall be to retain out of any cash held by Seller as the Initial Payment hereunder the sum of Two Million, One Hundred and Fifty Thousand ($2,150,000) Dollars, with the balance of Initial

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Payment to be promptly returned to Buyer. In no event shall Seller have any right to demand or obtain specific performance by Buyer or any money damages.

Section 9. Authorization. A. The undersigned officers of Seller and Buyer are duly authorized, and the parties hereto have full right, power and authority, to execute and deliver this Agreement, to observe and perform the terms and conditions hereof and to consummate the transactions contemplated hereby. Each party agrees to deliver to the other at the Closing such resolutions and certifications as may be reasonably requested in order to confirm the foregoing.

B. Each party agrees with the other that it will comply with the requirements of 15 U.S.C. §18A. The provisions of this Paragraph B shall survive the Closing.

Section 10. Apportionments. A. Real estate taxes and water and sewer taxes and charges shall be apportioned, on the basis of the fiscal year for which assessed, as of midnight preceding the Closing. If the Closing shall occur before the real estate taxes are finally fixed for the fiscal year in which Closing occurs, the apportionment of taxes at Closing shall be upon the basis of the estimated taxes and, upon final determination of the real estate taxes for the fiscal year in which Closing occurs, the apportionment shall be recomputed and settled by the parties promptly. Seller represents and warrants to Buyer that the real estate taxes for the Facility for the calendar year 1983 were $1,177,326. The provisions of this Paragraph A shall survive the Closing.

B. If, on May 1, 1984, the Property or any part thereof shall be or shall have been affected by an assessment or assessments which are or may become payable in annual installments, of which the first installment is then a charge or lien, or has been paid, then, for the purposes of this Agreement, all the unpaid installments of any such assessment, including those which are to be become due and payable after the Closing, but excluding those pertaining solely to municipal improvements to be performed wholly after the Closing, shall be deemed to be due and payable and to be liens upon the Property affected thereby and shall be paid and discharged by Seller at or prior to Closing. The provisions of this Paragraph B shall survive the Closing.

C. If there is a water meter on the Premises, any unfixed water charges shall be apportioned on the basis of the water meter bill for a like period for the year prior to Closing.

D. If any appeal or other proceeding for the procurement of a reduction of the assessed valuation of the Premises for tax purposes for the tax year in which Closing takes place is pending, then any benefits derived therefrom, whether by way of settlement, appeal, other legal proceedings, or otherwise, shall be ratably apportioned between Buyer and Seller, and the cost and expenses thereof shall be apportioned in like manner. If any appeal or other proceeding for the procurement of a reduction of the assessed valuation of the Premises for tax purposes for any period prior to the tax year in which Closing takes place is pending, then any benefits derived therefrom, whether by way of settlement, appeal, other

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legal proceedings, or otherwise, shall belong to Seller, and the cost and expenses thereof shall be borne and paid by Seller. The provisions of this Paragraph D shall survive the Closing.

E. Seller represents and warrants to and agrees with Buyer that on the date of Closing there will be no contracts or leases affecting the Property which would be binding on Buyer or "run with the land". The provisions of this Paragraph E shall survive the Closing.

Section 11. Costs of Closing. A. The costs of any title examination and report, title insurance premium and survey shall be borne by Buyer, except as otherwise provided herein.

B. Seller shall pay, as and when due, any and all real property, stamp, sales and other transfer taxes or recording charges incident to this transaction.

Section 12. Bill of Sale. At the Closing, Seller shall deliver to Buyer an executed Bill of Sale, in form and substance acceptable to Buyer and Buyer's counsel, so as to transfer and assign to Buyer (i) good title to the Included Equipment, (ii) the right, title and interest referred to in clause (f) of Section 1 hereof, and (iii) all other items of Property not covered by the Deed, all free and clear of all liens, claims, and encumbrances. Seller represents and warrants to and agrees with Buyer that the Included Equipment is owned by Seller and is and will at Closing be free and clear of all liens, claims, and encumbrances. All risk of loss prior to the Closing is borne by Seller, it being understood that Seller will repair and maintain the Included Equipment at its sole cost and expense.

Section 13. Lease. At the Closing, Seller and Buyer shall execute and deliver to each other a lease ("Lease") in the same form as that annexed hereto as Exhibit C, which Lease shall be dated the date of Closing. The assignment by Seller of the right, title and interest referred to in clause (f) of Section 1 hereof shall be subject to a reserved right of Seller to have the benefits under any manufacturer's or contractor's warranty referred to in such clause in connection with the performance by Seller of its obligations under Article SEVENTH of the Lease. The delivery of plans, specifications, surveys, keys and drawings under clause (2) of Paragraph B of Section 4 hereof shall be subject to a reserved right of Seller to have reasonable access to such items in connection with the performance by Seller of its obligations under Article SEVENTH of the Lease.

Section 14. Property Sold "As Is". A. (1) The Property (including, without limitation, any personal property covered by the Bill of Sale provided for in Section 12 hereof) is sold and purchased "as is", in its condition at the date hereof. Except as expressly set forth in this Agreement, no representations or warranties are being made by Seller or anyone on its behalf to Buyer as to (i) the condition of the Property or its compliance with laws, ordinances or governmental regulations, (ii) zoning and building department requirements which may be applicable to the Property or any part thereof, (iii) the assignability of any licenses or contractual or other

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rights now held by Seller in regard to the Property or any part thereof, or (iv) any other matter or thing affecting the Property or any part thereof. All risk of loss prior to the Closing is borne by Seller, it being agreed that Seller, at its sole cost and expense, will prior to Closing repair and maintain the Property in good condition.

(2) Notwithstanding the provisions of the preceding Subparagraph (1), with respect to building roofs, steel structure, reinforced concrete structure, floor slabs, and foundations, wood trusses in building 75 on the plot plan annexed hereto as part of Exhibit A, and the Included Equipment appurtenant to the "powerhouse" building, Seller's obligations under this Paragraph A shall be limited to normal repair and maintenance, determined in Seller's reasonable discretion (it being understood that, as used in this Subparagraph (2), "repair and maintenance" shall not be construed to require replacement in any event, subject, nevertheless, to the provisions of Section 15 hereof).

B. At the time of Closing the Premises shall be broom-clean and free of refuse, vacant and free of tenancies (except for the tenancy under the Lease provided for in Section 13 hereof), provided, however, that Seller, at its option, may leave upon the Premises any Excluded Equipment which is on the Premises at the date hereof, and the same shall be deemed abandoned and may either be retained by Buyer as its property or disposed of, without accountability, in such manner as Buyer may see fit. Seller, at its option, may remove from the Premises, at any time prior to the Closing, any Excluded Equipment and other property of Seller not deemed Included Equipment. If removal of Excluded Equipment or any other property of Seller causes damage to the property, Seller, at its sole cost and expense, shall prior to Closing repair any such damage and restore the Property to its condition prior to such removal. Seller's obligation to restore shall not be deemed to include the filling-in of any floor where Excluded Equipment has been removed by Seller as herein provided.

Section 15. Casualty or Condemnation. A. In the event of (a) destruction of all or a substantial part of any of the buildings and improvements on the Premises identified as buildings 40, 73 and 171 on the plot plan annexed hereto as part of Exhibit A, by fire or other cause, prior to the Closing, or (b) any threatened or pending condemnation or eminent domain proceeding affecting the Premises, then, and in any such event, Seller shall promptly give notice thereof to Buyer and Buyer, at its option, may elect to terminate this Agreement by giving Seller notice of such election and, in such event, Seller promptly shall make the return and reimbursement provided for in Paragraph A of Section 8 hereof. If Buyer does not exercise such option, then Seller shall deliver the Premises to Buyer as provided herein with an equitable reduction in the Purchase Price.

B. If the parties are unable to agree upon the amount of equitable reduction in the Purchase Price provided for in Paragraph A of this Section, then the equitable reduction shall be in an amount equal to the cost of repairing the destruction, in the case of fire or other casualty (with due regard being given to the Schedule of Value contained in Exhibit D annexed hereto and made a part hereof), or the amount of condemnation or eminent domain award, in the case of condemnation or eminent domain proceeding. If the award has not been paid at the time of Closing, Seller, in lieu of the reduction, shall assign to Buyer, by instrument in form and substance acceptable to Buyer and Buyer's counsel, all of Seller's right, title and interest in and to such award. Seller represents and warrants to Buyer that Seller has not received notice of any threatened or pending condemnation or eminent domain proceeding affecting the Property. In the event of a dispute between the parties with respect to any issue of fact to be determined for the purposes of this Section 15 (other than one determined by the condemnation court or other body authorized to make condemnation awards), such dispute shall be determined by arbitration. The party desiring arbitration shall give written notice to that effect to the other party and to the American Arbitration Association. The controversy shall be submitted to three (3) arbitrators under the then obtaining Commercial Arbitration Rules of the American Arbitration Association. In all events, the arbitrators shall each have at least ten (10) years' experience in the State of New Jersey in a calling connected with the subject matter of the controversy. The arbitration shall be conducted in New York City and in accordance with the then obtaining Commercial Arbitration Rules of the American Arbitration Association. The arbitrators shall proceed with all reasonable diligence to determine the question submitted and shall render their decision and award upon the concurrence of at least two (2) of their number. Such decision and award shall be in writing and counterpart copies thereof shall be delivered to each of the parties. Such decision and award shall be binding, final and conclusive on the parties. Judgment may be had on the decision and award of the arbitrators so rendered in any court of competent jurisdiction, federal or state, and may be enforced in accordance with the laws of the State of New York. The fees and expenses of an arbitration proceeding shall be borne by the parties equally. The fees of respective counsel engaged by the parties, the fees and expenses of expert witnesses and other witnesses called by the parties and the cost of transcripts shall be paid by the respective party engaging such counsel or calling or engaging such witnesses or ordering such transcripts.

C. (1) Notwithstanding anything to the contrary contained in this Section 15, Seller shall diligently perform any repair or restoration work required so as to cause the Property to be delivered to Buyer at Closing "as is", in its condition at the date hereof, and if the Property is delivered in such condition there shall not be any equitable reduction in the Purchase Price. In the event that the repair and restoration work is not completed by the Closing, then, unless the parties otherwise agree, Seller shall deliver the Premises to Buyer with the equitable abatement of the Purchase Price as provided for in this Section 15, due account being given for the repair and restoration work performed. In the event of any conflict between the provisions of Section 4 hereof and the provisions of this Paragraph C, then the provisions of Section 4 shall prevail.

(2) Notwithstanding the provisions of the preceding Subparagraph (1), with respect to the Included Equipment in or appurtenant to the "powerhouse" building

Seller's obligations under this Paragraph C shall be limited to normal repair and maintenance, determined in Seller's reasonable discretion.

Section 16. Certificate of Occupancy. Seller agrees with Buyer that Buyer's obligations hereunder are contingent upon the existence of a state of facts at the time of Closing to the effect that after the Closing the portions of the Property identified as buildings 40, 73 and 171 on the plot plan annexed hereto as part of Exhibit A may be used and occupied by any person for heavy manufacturing, warehousing, offices and/or uses incidental thereto, as presently being used, without violation of applicable laws, codes, ordinances, regulations, rules, requirements, orders and restrictions, and that such portions of the Property are in compliance therewith.

Section 17. Notices. Except as otherwise provided herein, any notice, consent, approval, communication or transmittal (a "notice") required by or given under this Agreement shall be in writing and shall be deemed to be properly served only if delivered personally or sent by United States express or certified mail, postage prepaid, as follows:

To Seller:

222 Broadway
New York, New York 10038
Attention: Corporate Realty Manager

With a copy to it at:

222 Broadway
New York, New York 10038
Attention: Alan Chesler, Esq.

To Buyer:

380 Madison Avenue,
Suite 1710
New York, New York 10017
Attention: Mr. John L. Neu

With a copy to:

Messrs. Guggenheimer & Untermyer
80 Pine Street
New York, New York 10005
Attention: Andrew N. Baer, Esq.

or to such other address as either party may designate from time to time by notice to the other party sent in like manner. Except as otherwise provided herein, notices shall be deemed given on receipt. Any notice to be given by a party may be given by that party's attorney.

Section 18. Brokers. Buyer represents and warrants to Seller that Buyer has not authorized any broker to deal with Seller on Buyer's behalf in connection with this transaction; and Buyer agrees to indemnify and save Seller harmless from all liabilities, damages, claims and expenses (including reasonable attorney's fees) arising due to the untruth of such representation and warranty. Seller represents and warrants to Buyer that Seller has not authorized any broker to deal with Buyer on Seller's behalf in connection with this transaction; and Seller agrees to indemnify and save Buyer harmless from all

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liabilities, damages, claims and expenses (including reasonable attorney's fees) arising due to the untruth, or alleged untruth, of such representation or warranty. The provisions of this Section 18 shall survive the Closing.

Section 19. Resale. In the event that, on or before April 2, 1986, Buyer sells and conveys the fee interest in the entire Premises, or in a portion of the Premises which includes more than 1.5 million square feet of building area, to a person not affiliated with Buyer, then Buyer shall pay to Seller one-half (1/2) of the amount, if any, by which the cash proceeds received by Buyer from such sale exceed the sum of (i) the Purchase Price, (ii) all costs and expenses incurred by Buyer in acquiring the Property (including, without limitation, attorney's fees and disbursements, title insurance premiums, the cost of title inspection and the cost of any survey of the Property), (iii) all costs and expenses incurred by Buyer in selling the Premises (including, without limitation, attorney's fees and disbursements and brokerage commissions), and (iv) the amount, if any, by which (x) an amount computed by multiplying the Purchase Price by ten (10%) percent and by a fraction of which the numerator is the number of days in the period commencing on the date of Closing hereunder and ending on the date of the conveyance in question, and the denominator is 365, exceeds (y) the net rentals received by Buyer, after operating expenses incurred by Buyer, for the period referred to in the preceding clause (x). The agreement set forth in this Section 19 shall be personal in nature and shall not "run with the land" or be binding upon any person to whom the Property or any part thereof is at any time conveyed or otherwise transferred. For the purposes of this Section 19, a leasehold estate for a term exceeding 21 years shall be deemed a fee interest. The provisions of this Section 19 shall survive the Closing.

Section 20. Miscellaneous. A. This Agreement may be amended or modified only by an agreement in writing signed by the party against whom enforcement thereof is sought.

B. This Agreement shall bind and inure to the benefit of the parties hereto and their respective successors and assigns, except that Seller may not assign this Agreement, or any of its rights hereunder, without the prior written consent of Buyer. Buyer may not assign its rights hereunder, except that Buyer may assign its rights hereunder to any person who or which is affiliated with Buyer, or in connection with a merger, consolidation, or sale of all or substantially all of the assets, of Buyer; in the event of any such assignment, Buyer shall promptly give notice to Seller of the name and address of the assignee and such assignee shall be deemed Buyer hereunder for all purposes.

C. The entire understanding of the parties is set forth in this Agreement and the parties are not bound by any agreements, understandings or conditions other than as expressly set forth herein.

D. This Agreement may be executed in one or more counterparts, each of which shall constitute an original and all of which together shall constitute one and the same instrument.

E. This Agreement shall be governed by the law of the State of New York applicable to agreements made and to be performed wholly therein except that issues concerning the state of title to real property shall be governed by the law of the State of New Jersey applicable with regard to real property situate therein.

F. The captions in this Agreement are inserted only as a matter of convenience and shall not be given any effect in construing this Agreement.

G. As used herein, the term "person" shall include natural persons, corporations, partnerships, trusts, estates and other entities.

H. For the purposes of Section 19 and Paragraph B of this Section 20, a person shall be deemed affiliated with Buyer if at the time of the conveyance in question such person directly or indirectly (i) controls Buyer, (ii) is controlled by Buyer, or (iii) is under common control with Buyer.

I. Neither party may record this Agreement in public land records without the prior consent of the other.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed as of the date first above written.

AT&T TECHNOLOGIES, INC.

[Seal]

By: ____________________
R.A. KRAAY,
Vice President

ATTEST:

____
A.M. ZILLER
SECRETARY

UNION MINERALS AND ALLOYS CORP.

[Seal]

By: ____________________
V.P.
JOHN L. NEJ,
VICE PRESIDENT

ATTEST:

____
ANDREW FEUERSTEIN,
ASST. VICE PRESIDENT

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: SS.:
COUNTY OF NEW YORK)

On this 21st day of May, 1984, before me personally came R. A. Hracy, to me known, who, being by me duly sworn, did depose and say that he resides at Basking Ridge that he is the Vice President of AT&T TECHNOLOGIES, INC., the corporation described in and which executed the foregoing instrument; the he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

Richard N. Draden
Notary Public

RICHARD N. DRADEN
Notary Public, State of New York
No. 5115335 Nassau County
Certificate filed New York County
Commission Expires March 30, 1986

STATE OF NEW YORK)
: SS.:
COUNTY OF NEW YORK)

On this 17th day of May, 1984, before me personally came John L. New, to me known, who, being by me duly sworn, did depose and say that he resides at Hoboken, N.J., that he is the Vice President of UNION MINERALS AND ALLOYS CORP., the corporation described in and which executed the foregoing instrument; the he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

Carmel J. Camillery
Notary Public

CARMEL J. CAMILLERY
Notary Public, State of New York
No. 4703445
Qualified in Orange County
Certificate Filed in New York County
Commission Expires March 30, 1986

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EXHIBIT A

The Premises include the following:

Parcel A: A parcel of land containing one hundred and forty-five (145) acres, more or less, with the buildings and improvements thereon erected, bounded on the north by Route 1 and 9, on the east by Central Avenue, on the south by property of others and on the west by the Passaic River, known heretofore as the "Kearny Works" of Seller and being substantially as shown on the plot plan herewith.

Parcel B: A parcel of land containing four (4) acres, more or less, bounded on the north by Route 1 and 9, on the east by land now owned by Buyer, on the south by property of others and on the west by Central Avenue.

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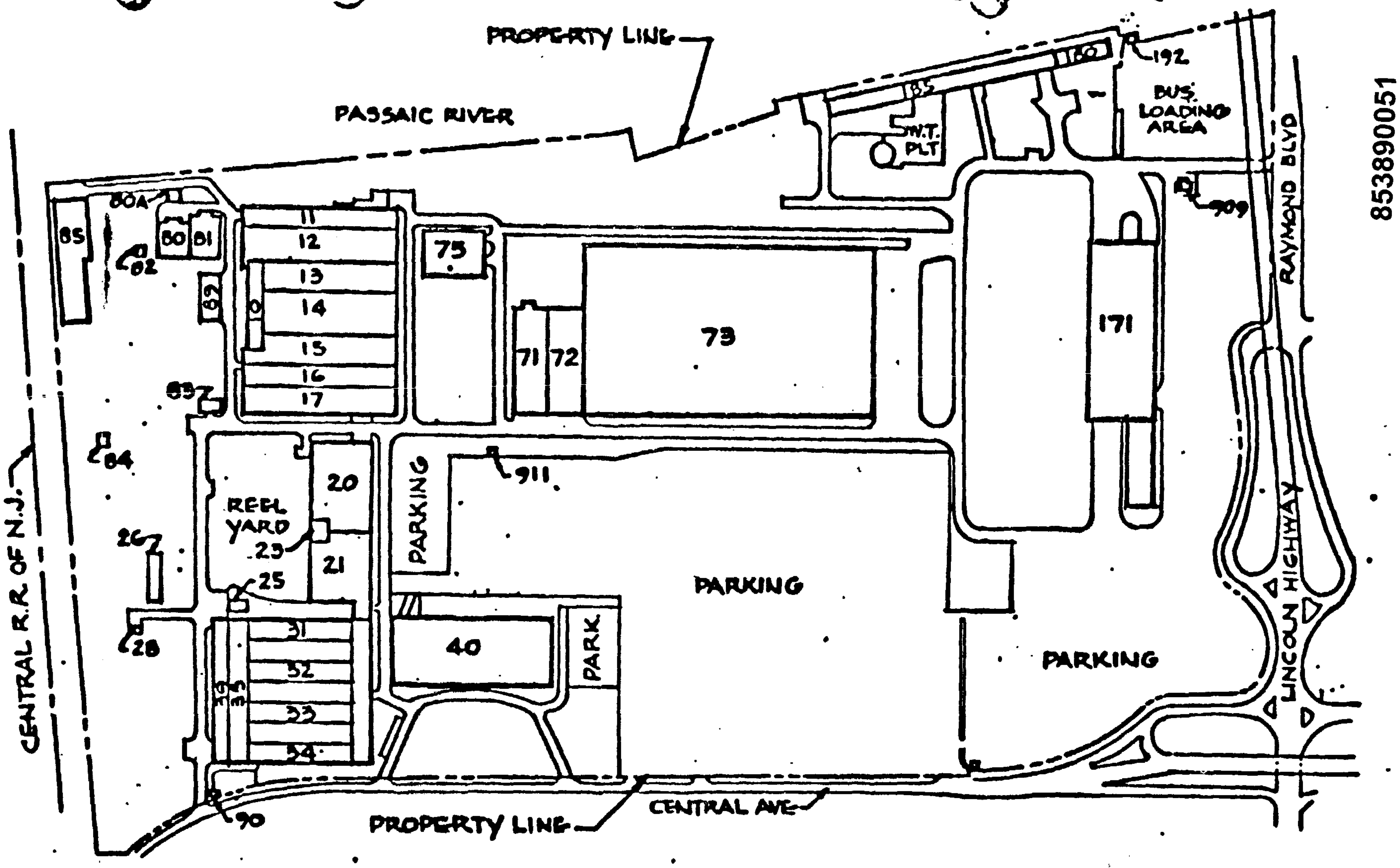


NOTE: 1. FOR EASEMENTS, DEDICATIONS, ETC., SEE LEGAL DOCUMENTS
2. FOR UTILITIES SEE DESIGN DWGS.

N

PROPERTY AREA
144.48 ACRES

0' 400'
SCALE

LOCATION:	SCALE:
BLDG. FLOOR	DRAWN BY: JDF
KEARNY WORKS KEARNY, N.J.	ENGINEER: HEK ARCHITECT: SUPERVISOR: 4-4-83
WESTERN ELECTRIC CO., INC. PLANT DESIGN & CONSTRUCTION 222 BROADWAY N.Y. N.Y. 10038	DRAWING NO. KY

AGREEMENT OF LEASE, dated , 198 , made by and between UNION MINERALS AND ALLOYS CORP., a New York corporation having an office at 380 Madison Avenue, New York, New York 10017 ("Lessor"), and AT&T TECHNOLOGIES, INC., a New York corporaiton having its principal office at 222 Broadway, New York, New York 10038 ("Lessee");

W I T N E S S E T H :

WHEREAS, by Agreement dated as of April 16, 1984 ("Purchase Agreement"), Lessee agreed to sell and convey, and Lessor agreed to purchase, all those certain plots, pieces and parcels of land situate in the City of Kearny, County of Hudson and State of New Jersey, known as the "Kearny Works", located at Central Avenue and Route 1 and 9, more particularly described therein, with the buildings and improvements thereon erected and with certain other property described as the "Included Equipment" in Section 1 of the Purchase Agreement (such plots, pieces and parcels of land are sometimes collectively referred to herein as the "Land", such buildings and other improvements thereon erected are sometimes collectively referred to herein as the "Buildings", such other property is sometimes collectively referred to herein as the "Building Equipment" and the Land, Buildings and Building Equipment are sometimes collectively referred to herein as the "Facility");

WHEREAS, by deed and bill of sale, each dated even date herewith, the Facility was sold and conveyed to Lessor by Lessee;

WHEREAS, Lessor desires to lease (i) those certain Buildings which are set forth in Schedule 1 annexed hereto and made a part hereof, together with the Building Equipment appurtenant to and located within such Buildings, and (ii) the portions of the Land (collectively, the "Land Premises") which are shown on the plot plan annexed to said Schedule 1 free of cross-hatching (those certain Buildings, such Building Equipment and such Land Premises are sometimes collectively referred to herein as the "Premises"), to Lessee and Lessee desires to hire the same from Lessor;

NOW, THEREFORE, in consideration of the foregoing and of the covenants, conditions and agreements hereinafter set forth, Lessor and Lessee agree as follows:

ARTICLE FIRST

DEMISE AND TERM OF DEMISE

SECTION 1.01. Lessor, in consideration of the rents hereinafter reserved and of the covenants, agreements and conditions herein contained on the part of Lessee to be paid, observed and fulfilled, does hereby demise and lease the Premises to Lessee and Lessee hereby hires the same from Lessor;

TOGETHER WITH:

(a) A non-exclusive right to use the items of Building Equipment which are appurtenant to and used in connection with the operation or maintenance of the Premises but not located within the Premises (including, without limitation, the utility lines which serve Building 40 and are located in the basements of Buildings 11-17, 20, 21 and 31-34, such Buildings being as identified on the plot plan included in Schedule 1 annexed hereto and made a part hereof); and

(b) A reasonably adequate non-exclusive right of ingress and egress, between the Premises and a public thoroughfare, over such private roadway or roadways, on or adjacent to the Facility, as shall from time to time be mutually agreed upon in writing by Lessor and Lessee (such private roadway or roadways are sometimes collectively referred to herein as the "private roadway");

SUBJECT, HOWEVER, to those matters to which the Facility was subject at the time of sale and conveyance by Lessee to Lessor and the matters set forth in Schedule 2 annexed hereto and made a part hereof;

TO HAVE AND TO HOLD the Premises unto Lessee, its successors and assigns, for a term ("Term") commencing on the date hereof ("Commencement Date") and expiring at midnight on December 31, 1985 ("Expiration Date"), unless the same shall sooner terminate pursuant to any of the terms, covenants or conditions of this Lease or pursuant to law.

SECTION 1.02. This Lease is made upon the foregoing and the following covenants and conditions, each of which the parties agree to perform, irrespective of whether the particular provision is in form a covenant, an agreement, a condition, a direction, or otherwise, on the part of the party to perform the same.

ARTICLE SECOND

RENT

SECTION 2.01. Lessee shall pay to Lessor, at the address specified in or pursuant to Section 2.03 hereof, during the Term, a fixed net rent ("the fixed net rent") over and above the other and additional payments to be made by Lessee as hereinafter provided, of One Million, Six Hundred Seventy Two Thousand, Eight Hundred Ninety Six ($1,672,896.00) Dollars, subject to reduction in the event of termination as provided in Article THIRTIETH hereof. The fixed net rent shall be paid in advance in equal monthly installments of One Hundred Thirty Nine Thousand, Four Hundred and Eight ($139,408.00) Dollars each on the first day of each and every month during the Term, except that the first full monthly installment is being paid by Lessee to Lessor simultaneously with Lessee's execution and delivery hereof.

SECTION 2.02. If Lessee shall fail to pay when due under this Lease any additional rent or other sums due hereunder to Lessor, and such failure shall not be remedied within the grace period applicable thereto under this Lease, Lessor shall have all of the rights and remedies provided in this

Lease as in the case of default in the payment of the fixed net rent. Except as otherwise specifically provided in this Lease the fixed net rent and additional rent shall be paid without notice, demand, abatement, deduction or set-off. Such fixed net rent and additional rent are sometimes referred to herein collectively as "rent".

SECTION 2.03. Lessee shall pay the rent in lawful money of the United States which shall be legal tender for all debts, public and private, at the time of payment, at the office of Lessor at River Terminal Development Company, Port Kearny, South Kearny, New Jersey, or to such other person or persons and/or at such other place or places as may be specifically provided herein or as Lessor may designate from time to time by notice to Lessee. Such payments may be made by check of Lessee, subject to collection, and any such check shall be drawn on a bank which is organized under the laws of the United States or any state thereof and shall be payable to the order of Lessor or to such other person or persons as may be specifically provided herein or as Lessor may designate from time to time by notice to Lessee.

SECTION 2.04. Any obligation of Lessee for payment of rent which shall have accrued with respect to any period during the Term shall survive the expiration or termination of this Lease.

SECTION 2.05. If the Commencement Date is other than the first day of a calendar month, then rent for the calendar month in which the Commencement Date occurs shall be pro-rated on a per diem basis and Lessee shall receive an appropriate credit therefor against the installment of rent coming due on the first day of the first full calendar month following the Commencement Date. If the Expiration Date is other than the last day of a calendar month, then rent for the calendar month in which the Expiration Date occurs shall be pro-rated on a per diem basis, and after the Expiration Date Lessor shall forthwith pay Lessee the amount of any overpayment resulting from the foregoing.

ARTICLE THIRD

TAXES, ASSESSMENTS AND MISCELLANEOUS CHARGES

SECTION 3.01. As used herein:

A. The term "Lessor's Statement" shall mean an instrument containing a computation of any additional rent due pursuant to the provisions of this Article.

B. The term "Taxes" shall mean all real estate taxes, assessments, special or otherwise, water and sewer rents, rates and charges, water meter charges, county taxes, transit taxes, use and occupancy taxes, and any other governmental charge of a similar or dissimilar nature, whether general, special, ordinary or extraordinary, foreseen or unforeseen, which may be charged, imposed, levied or assessed upon or with respect to all or any part of the Facility (including, without limitation, anything appurtenant thereto and the sidewalks and vaults adjacent to the Facility) by any taxing authority. If at any time during the Term the methods

SECTION 34.08. Lessee agrees with Lessor that Lessee will not record this Lease or any memorandum of this Lease without the prior written consent of Lessor.

SECTION 34.09. Lessor may from time to time adopt rules and regulations pertaining to use and operation of the Facility and Lessee agrees to comply with the same.

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement of Lease on the date first above written.

UNION MINERALS AND ALLOYS CORP.

[Seal]

By: ______________________________

Attest:

____

AT&T TECHNOLOGIES, INC.

[Seal]

By: ______________________________

Attest:

____

STATE OF)
: ss.:
COUNTY OF)

On this day of , 19 , before me personally came , to me known, who, being by me duly sworn, did depose and say the he resides at , that he is the of Union Minerals and Alloys Corp., the corporation described in and which executed the foregoing Lease, as Lessor; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

Notary Public

STATE OF)
: ss.:
COUNTY OF)

On this day of , 19 , before me personally came , to me known, who, being by me duly sworn, did depose and say the he resides at , that he is the of AT&T Technologies, Inc., the corporation described in and which executed the foregoing Lease, as Lessor; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that he signed his name thereto by like order.

Notary Public

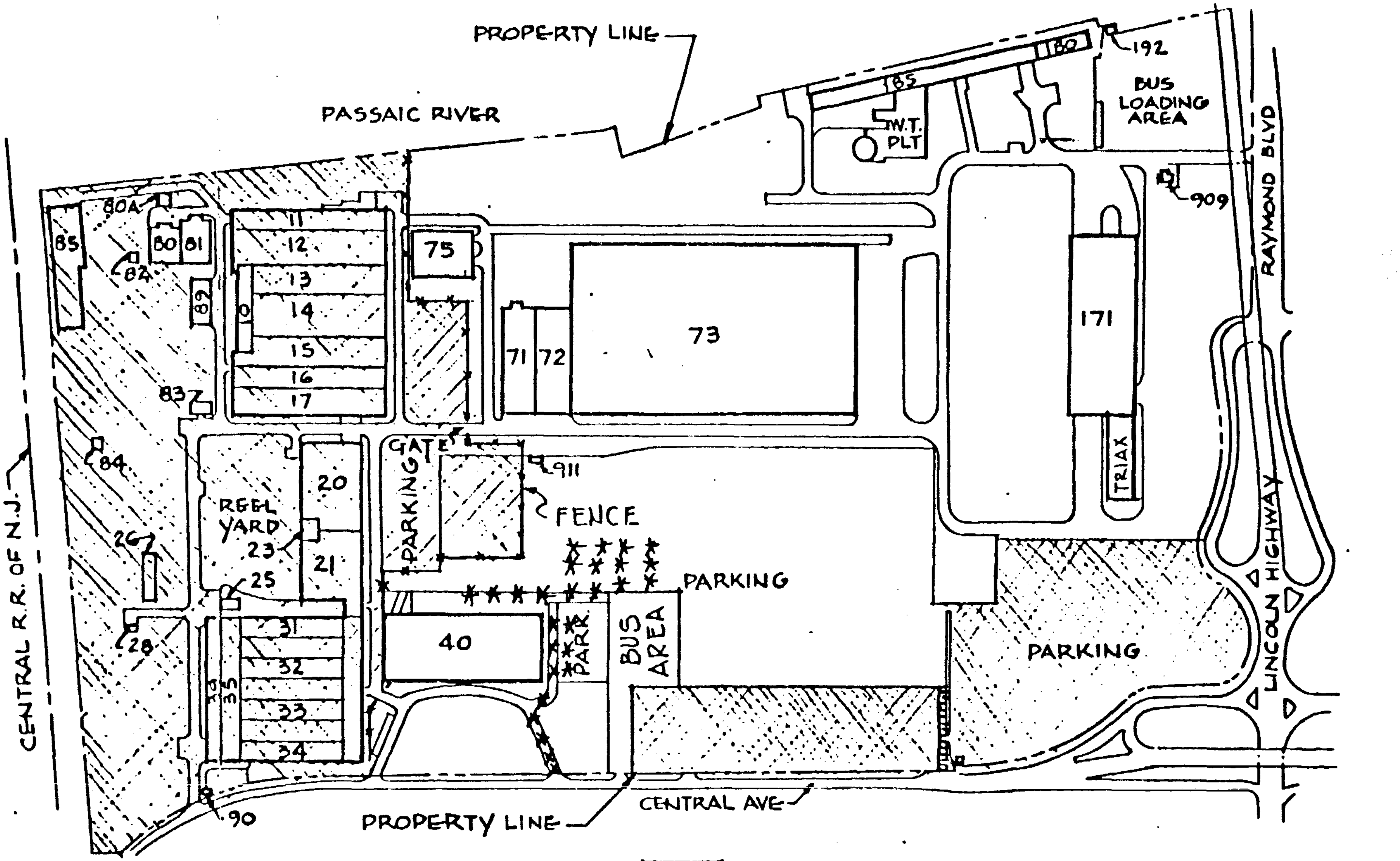
	Building Included In Premises (See Annexed Plot Plan)[1,2]	Area (Sq. Ft.)[3]	Fixed Net Rent	Lessee's Proportionate Share
I.	40	168,666	$ 210,833	12.72%
II.	71, 72 & 73	834,393	$1,042,991	45.69%
III.	171 & Triax	128,700	$ 160,875	14.13%
IV.	80, 80A & 81 (Powerhouse)	55,304	$ 69,130	2.46%
V.	75	25,474	$ 31,843	1.89%
VI.	180, 185 & Waste Treatment Plant	102,116	$ 127,645	6.15%
VII.	83	5,160	$ 6,450	.50%
VIII.	909	400	$ 500	-%
IX.	911	180	$ 225	-%
X.	89	17,922	$ 22,403	1.52%

1 Buildings grouped together in this Schedule shall be deemed a single building for all purposes of this Lease, notwithstanding the use of separate numbers on the annexed plot plan.

2 Premises do not include Parcel B set forth in Exhibit A in the Purchase Agreement.

3 Area measurements are agreed upon by Lessor and Lessee for all purposes of this Lease.

853890057



*** Asterisks indicate approximate location of Building 40 Parking Area

Cross-hatching indicates space not included in Lessee's Premises

4·4·84

Hatching indicates private roadway

NOTE: 1. FOR EASEMENTS, DEDICATIONS, ETC., SEE LEGAL DOCUMENTS
2. FOR UTILITIES SEE DESIGN DWGS.

PROPERTY AREA
144.48 ACRES

N

0' 400'
SCALE

LOCATION:	SCALE:
BLDG. FLOOR	DRAWN BY: JDF
KEARNY WORKS KEARNY, N.J.	ENGINEER: HEK
	ARCHITECT: 4·4·83
	SUPERVISOR:
WESTERN ELECTRIC CO., INC. PLANT DESIGN & CONSTRUCTION 222 BROADWAY, N.Y., N.Y. 10038	DRAWING NO. KY

853890058

EXHIBIT D

Schedule of Value[1]

Building (See Plot Plan Annexed to Exhibit A Hereof)	Gross Value
40	$1,550,000
73	4,890,000
71 & 72	740,000
171 & Triax	1,722,000
80, 80A & 81 (Powerhouse)	300,000
75	230,000
17	300,000
20, 21, 31-34 35 & 39 (T.A. Bldg.)	2,000,000
10-16	1,845,000
180, 185 & Waste Treatment	750,000
83	60,000
89	185,000
85	300,000

853890059

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1 Values are agreed upon by Seller and Buyer solely for the purposes of Section 15 of the Agreement of which this Exhibit D is a part.

EXHIBIT E

For the purposes of Section 5F(2), Seller makes no representation that the public utilities required for the operation of the portions of the Premises identified as buildings 20-39 (the TA building) on the plot plan annexed hereto as part of Exhibit A are operable.

3

853890061

Dun & Bradstreet report for RTC Properties, Inc.

- Establishes current Site owner/operator.

ATTN: DN

IN DATE

DUNS: 18-982-3685	DATE PRINTED		
R T C PROPERTIES, INC	JUN 26 1996	RATING	BRANCH
(FORMERLY: R T C PROPERTIES INC (NY))			
+RIVER TERMINAL DISTRIBUTION & WAREHOUSING	GENERAL WAREHOUSE/STORAGE	EMPLOYS	13
	SIC NO. 42 25		

100 CENTRAL AVE RM BLD 30
PORT KEARNY BLDG 39
KEARNY NJ 07032
TEL: 201 216-2611

BRANCH MANAGER: SVETIN GOVIC

* * * CUSTOMER SERVICE * * *

If you need any additional information, would like a credit recommendation, or have any questions, please call our Customer Service Center at (800) 234-3867 from anywhere within the U.S. From outside the U.S., please call your local D&B office.

* * * SUMMARY ANALYSIS * * *

RATING SUMMARY . . . .

The term "BRANCH" in the Rating field indicates that this company is a branch location. D&B Ratings do not appear on branch reports.

* * * PAYMENT SUMMARY * * *

The Payment Summary section reflects payment information in D&B's file as of the date of this report.

The PAYDEX for this company is 80.

This PAYDEX score indicates that payments to suppliers are generally within terms, weighted by dollar amounts. When dollar amounts are not considered, approximately 86% of the company's payments are within terms.

Below is an overview of the company's dollar-weighted payments, segmented by its suppliers' primary industries:

	TOTAL	TOTAL DOLLAR	LARGEST HIGH	% W/IN	DAYS SLOW

853890063

	RCV'D	AMOUNTS	CREDIT	TERMS	<31	31-60	61-90	91-
	#	$	$	%	%	%	%	%
Total in D&B's file	6	13,350	10,000					
Payment By Industry:								
1 Hvy const eqpt rental	1	10,000	10,000	100	-	-	-	-
2 Whol electrical equip	1	2,500	2,500	100	-	-	-	-
3 Trucking non-local	1	250	250	100	-	-	-	-
4 Whol hardware	1	250	250	100	-	-	-	-
5 Mfg marking devices	1	100	100	-	100	-	-	-
Other Payment Categories:								
Cash experiences	0	0	0					
Payment record unknown	1	250	250					
Unfavorable comments	0	0	0					
Placed for collection								
with D&B	0	0						
other	0	N/A						

The highest "Now Owes" on file is $500
The highest "Past Due" on file is $50

The payment experiences in this report relate specifically to this branch location. Please refer to the headquarters report if you would like consolidated trade information for the headquarters and its branches.

==

PAYMENTS (Amounts may be rounded to nearest figure in prescribed ranges)

Antic - Anticipated (Payments received prior to date of invoice)
Disc - Discounted (Payments received within trade discount period)
Ppt - Prompt (Payments received within terms granted)

REPORTED	PAYING RECORD	HIGH CREDIT	NOW OWES	PAST DUE	SELLING TERMS	LAST SALE WITHIN
05/96	Ppt	2500	500	-0-	N30	1 Mo
03/96	Ppt	10000	-0-	-0-		1 Mo
	(003)	250	50	50		
01/96	Slow 30	100	-0-	-0-		6-12 Mos
12/95	Disc	250	-0-	-0-		6-12 Mos
06/95	Ppt	250	-0-	-0-	N30	6-12 Mos

==

PUBLIC FILINGS

The following data is for information purposes only and is not the official record. Certified copies can only be obtained from the official source.

If it is indicated that there are defendants other than the report subject, the lawsuit may be an action to clear title to property and does not necessarily imply a claim for money against the subject.

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* * * SUIT(S) * * *

DOCKET NO.: 90000008
PLAINTIFF: REISCH TRUCKING & TRANSPORATION STATUS: Pending
DEFENDANT: R T C PROPERTY INC DATE STATUS ATTAINED: 02/09/1990
and OTHERS DATE FILED: 02/09/1990
WHERE FILED: HUDSON COUNTY SUPERIOR COURT, LATEST INFO RECEIVED: 10/12/1990
JERSEY CITY, NJ

On 04/27/95, Bernard Stuzin, treas, R T C PROPERTY INC, stated that this is covered by insurance.

The public record items contained in this report may have been paid, terminated, vacated or released prior to the date this report was printed.

OPERATION
12/13/95 This is a division: headquarters are located at 1185 Ave of the Americas, New York, NY. Headquarters D-U-N-S 04-835-5614. This division operates as a warehouse facility.
06-26(/001) 00000 037184184

FULL DISPLAY COMPLETE

ATTN: DN

IN DATE

RATING CHANGE

DUNS: 04-835-5614
R T C PROPERTIES, INC
(SUBSIDIARY OF NEU, HUGO CORP, NEW YORK, NY)
+RIVER TERMINAL DEVELOPMENT
+RIVER TERMINAL DISTRIBUTION & WAREHOUSING

1185 AVENUE OF THE AMERICAS,
STE 310
AND BRANCH(ES) OR DIVISION(S)
NEW YORK NY 10036
TEL: 212 827-0910

DATE PRINTED
JUN 26 1996

OPERATORS OF COMMERCIAL BUILDINGS & GENERAL WAREHOUSING

SIC NOS.
65 12 42 25

SUMMARY	
RATING	1R3
	FORMERLY
	--
STARTED	1946
EMPLOYS	100(2-3 HERE)
HISTORY	CLEAR

CHIEF EXECUTIVE: JOHN NEU, PRES

==

SPECIAL EVENTS
08/12/95 A Rating change has occurred on this company.

==

* * * CUSTOMER SERVICE * * *

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If you need any additional information, would like a credit recommendation, or have any questions, please call our Customer Service Center at (800) 234-3867 from anywhere within the U.S. From outside the U.S., please call your local D&B office.

==

* * * SUMMARY ANALYSIS * * *

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The Summary Analysis section reflects information in D&B's file as of June 24, 1996.

RATING SUMMARY . . . .

The Rating was changed on August 15, 1995 because of D&B's overall assessment of the company's financial, payment and history information. The "1R" portion of the Rating (the Rating Classification) indicates business size of 10 or more employees for this company. The "3" on the right (Composite Credit Appraisal) indicates an overall "fair" credit appraisal. This credit appraisal was assigned because the payment information in D&B's file on this company indicates slowness in meeting trade obligations and the open suits, liens or judgments in D&B's file.

Below is an overview of the company's D&B Rating(s) since 01/01/91:

853890066

*** UCC FILING(S) ***

COLLATERAL: Chattel paper and proceeds - Contract rights and proceeds - Equipment and proceeds
FILING NO: 1674715
TYPE: Original
SEC. PARTY: FOLEY, INCORPORATED, PISCATAWAY, NJ
DEBTOR: RIVER TERMINAL DEVELOPMENT COMPANY, SOUTH KEARNY, NJ
DATE FILED: 01/02/1996
LATEST INFO RECEIVED: 02/20/1996
FILED WITH: SECRETARY OF STATE/UCC DIVISION, NJ

COLLATERAL: Equipment
FILING NO: 1635459
TYPE: Original
SEC. PARTY: MAINTAINCO, INC., SOUTH HACKENSACK, NJ
ASSIGNEE: TOYOTA MOTOR CREDIT CORPORATION, TORRANCE, CA
DEBTOR: RTC PROPERTIES, INC., SOUTH KEARNY, NJ
DATE FILED: 05/18/1995
LATEST INFO RECEIVED: 10/03/1995
FILED WITH: SECRETARY OF STATE/UCC DIVISION, NJ

COLLATERAL: Equipment
FILING NO: 1630770
TYPE: Original
SEC. PARTY: MAINTAINCO, INC., SOUTH HACKENSACK, NJ
ASSIGNEE: TOYOTA MOTOR CREDIT CORPORATION, TORRANCE, CA
DEBTOR: RTC PROPERTIES, INC., SOUTH KEARNY, NJ
DATE FILED: 04/19/1995
LATEST INFO RECEIVED: 07/31/1995
FILED WITH: SECRETARY OF STATE/UCC DIVISION, NJ

COLLATERAL: Equipment
FILING NO: 1611025
TYPE: Original
SEC. PARTY: MAINTAINCO, INC., SOUTH HACKENSACK, NJ
ASSIGNEE: TOYOTA MOTOR CREDIT CORPORATION, TORRANCE, CA
DEBTOR: RTC PROPERTIES, INC., SOUTH KEARNY, NJ
DATE FILED: 12/29/1994
LATEST INFO RECEIVED: 03/22/1995
FILED WITH: SECRETARY OF STATE/UCC DIVISION, NJ

The public record items contained in this report may have been paid, terminated, vacated or released prior to the date this report was printed.

HISTORY
04/28/95
JOHN NEU, PRES
ANDREW FEURSTEIN, SEC
BERNARD STUZIN, TREAS
MARTIN YTUARTE, V PRES
DIRECTOR(S): THE OFFICER(S)

BUSINESS TYPE: Corporation - Profit

DATE INCORPORATED: 07/10/1946
STATE OF INCORP: New York

AUTH SHARES-COMMON: 200
PAR VALUE-COMMON: No Par Value

Business was originally incorporated as Union Minerals & Alloys Corp. Name was changed on Aug 29 1988 to present style.

Business started 1946 by the Neu family. 100% of capital stock is owned by parent.

JOHN NEU born 1932. Active with parent since 1953.

ANDREW FEURSTEIN born 1940. 1966-1983 employed by US Air, New York, NY. 1984-present active with parent.

BERNARD STUZIN born 1930. 1961-present active with parent.

MARTIN YTUARTE born 1935. 1987-present active with parent. Prior to joining parent, employed for approximately 30 years with Prudential Lines, New York, NY (shipping corporation).

AFFILIATES: Through parent company, this is related to the following two companies:

Neu Hugo Steel Products Inc, Everett, MA. Started 1966. Active as steel foundry and exports steel.

Central Iron Liquidating Corporation, Giles, AL. Started 1950. Wholesales scrap metals.

Intercompany relations consist of loans and advances settled at management's convenience.

OPERATION

04/28/95 Subsidiary of Neu, Hugo Corp, New York, NY started 1947 which operates as an exporter of ferrous and non-ferrous metals. Parent company owns 100% of capital stock. Parent company has two other subsidiary(ies).

There is no current financial information available on the parent company. As noted, this company is a subsidiary of Neu, Hugo Corp, DUNS #01-216-3424, and reference is made to that report for background information on the parent company and its management. Intercompany relations include sharing of space and loans and advances settled at management's convenience.

Operators of commercial buildings (90%) and general warehousing (10%).

Income is derived from monthly rent. Has 50 account(s). Sells to commercial concerns. Territory : New Jersey.

Nonseasonal.

EMPLOYEES: 100 which includes officer(s). 2-3 employed here.

FACILITIES: Rents 12,000 sq. ft. on third floor of a multi story brick building. Shares with parent.

LOCATION: Central business section on main street.

BRANCHES: Company has two divisions: River Terminal Development, Kearny, NJ and River Terminal Distribution & Warehousing, Kearny, NJ.

SUBSIDIARIES: This company currently has no operating

subsidiaries.
06-26(261 /001) 00000 012163424 001166166 H
BANK: Chase Manhattan Bank, New York, NY.

FULL DISPLAY COMPLETE

4

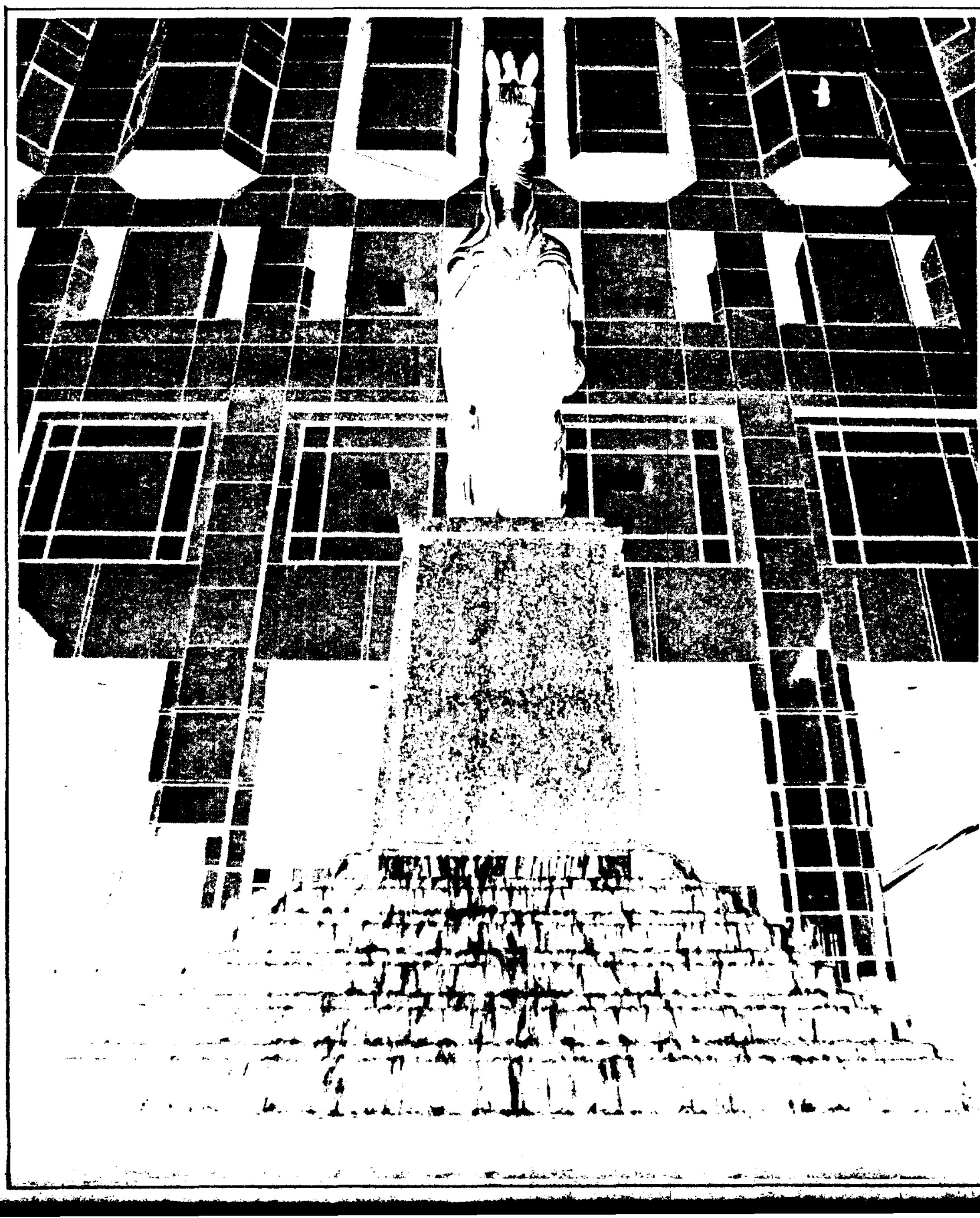
853890070

Excerpt from the International Directory of Company Histories for the AT&T Company.

- Establishes Site owner and potential products manufactured.

V 3

International Directory of
COMPANY HISTORIES



AMERICAN TELEPHONE AND TELEGRAPH COMPANY

550 Madison Avenue
New York, New York 10022
U.S.A.
(212) 605-5500

Public Company
Incorporated: 1885
Employees: 274,000
Sales: $37.29 billion
Stock Exchanges: New York Philadelphia Boston Midwest Pacific Tokyo London.

American Telephone and Telegraph Company (AT&T) was the largest corporation in the world for much of the 20th century. A government-regulated monopoly for most of its existence, it built most of the U.S. telephone system and was the standard of the worldwide telecommunications industry. It was dismembered in 1984 as a consequence of an action by the U.S. Department of Justice (DOJ) and through a consent decree signed that year. Its local operating companies became separate entities, leaving AT&T with the long-distance segment of the business, the only remaining government-regulated aspect of the company. AT&T also manufactures telecommunications equipment, computers, communications cable, and runs one of the world's foremost research centers, Bell Telephone Laboratories, Inc. (Bell Labs).

AT&T had its origin in the invention of the telephone in 1876 by Alexander Graham Bell. In 1877 Bell and several financial partners formed the Bell Telephone Company, and in 1878 they formed the New England Telephone Company to license telephone exchanges in New England. The two companies licensed local operating companies in Chicago, New York, and Boston. Over the next year Bell and his backers sold a controlling interest in the companies to a group of Boston financiers.

The companies were soon embroiled in patent disputes with Western Union Telegraph Company, the world's largest telegraph company. During the dispute, the two Bell companies were consolidated into the National Bell Telephone Company, and Theodore J. Vail was named general manager. In November 1879, the patent suit was settled out of court. Western Union left the telephone business and sold its system of 56,000 telephones in 55 cities to Bell. Bell agreed to stay out of the telegraph business, and paid Western Union a 20% royalty on telephone equipment leases for the next 17 years. Between 1877 and 1881, Bell licensed numerous local operating companies as a way to promote the telephone without having to raise capital. The companies signed five- to ten-year contracts, under which Bell got $20 per telephone per year and the right to buy the licensee's property when the contract expired.

National became the American Bell Telephone Company in 1880 and obtained more capital at that time. Starting in 1881 Bell urged the locals to make the contracts permanent, rescinding Bell's right to buy the respective properties, but giving Bell variously 30% to 50% ownership of the operating companies. The companies could build long-distance lines to connect exchanges in their territories, but they were prohibited from connecting them with those of other operating companies or independent phone companies. Bell thus became a partner in the local telephone business, allowing Bell to influence the locals and conserve capital for long-distance operations. American Bell needed large amounts of equipment, and in 1881 it acquired Western Electric, the major supplier of Western Union's telegraphic equipment, to manufacture its equipment. Bell then consolidated into Western Electric several other manufacturers it had licensed to make telephones.

More long-distance lines were being built as telephone technology improved. In 1884 Bell built an experimental line between Boston and New York. The next year it added a Philadelphia—New York line. To construct, finance, and operate its long-distance system, Bell established the American Telephone and Telegraph Company in 1885 to operate as its long-distance subsidiary. At that time the nascent U.S. telephone system was primarily a series of unconnected local networks. Vail, who was named AT&T president, wanted to get a long-distance network in place before Bell's basic patents expired in 1894. By the time it established AT&T, Bell was in firm control of the telephone business. It regulated the operating companies' long-distance lines and Western Electric, their major supplier. It also had the right to take over their property if they violated their contracts.

In 1888 a huge blizzard in New England knocked most telephones out of service. The company responded by pushing to put more cables underground. Later that year it became clear that a long-distance network would cost more than planned, and AT&T floated $2 million in bonds to raise capital. The company returned to public investors frequently throughout its history to finance its ever-expanding enterprises. For decades AT&T stock was the most widely held in the world. To attract investors so often, AT&T was forced to be efficient, even though it lacked real competition for much of its history.

Technical advances came regularly. The first coin-operated public telephone was installed in 1889. During 1891 two-party and four-party service was introduced, and the first automatic dial system was patented. A New York—Chicago long-distance line opened in 1892, and Boston—Chicago and New York—Cincinnati lines were initiated in 1893.

Bell initially had a monopoly on the telephone because of its patents, but in 1894 its patent expired. Rather than compete by providing better and less expensive service, Bell often took the growing independent phone companies to court, claiming patent infringements. As Western Electric would not sell equipment to the independents, new manufacturers sprung up to accommodate them. The independents were particularly successful in rural areas in the West and Midwest where Bell did not provide service. By 1898 some cities had two unconnected phone systems, one Bell and one independent. This competition forced Bell to expand faster than it otherwise would have. It jumped from 240,000 phones in 1892 to 800,000 in 1899.

The company needed capital to keep up with this expansion, and Massachusetts, where American Bell was based, presented far more regulatory interference than New York, where AT&T was based. As a result, AT&T in 1899 became the parent company of the Bell System until the breakup in 1984. AT&T's capital jumped from $20 million to more than $70 million. By 1900 AT&T was organizing itself into the vertical structure that characterized it for decades thereafter. It had assets of $120 million compared with a total of $55 million for the independents, but its finances were run overly conservatively and its service was often poor.

Meanwhile, the telephone was having a dramatic impact on the United States, where large numbers of people still lived in the relative isolation of farms or small towns. The telephone lessened their isolation, and the response to the new invention was enthusiastic. The number of rural telephones shot from 267,000 in 1902 to 1.4 million in 1907. The telephone was coming to be viewed as indispensable by virtually all businesses and most private homes.

Competition from independents continued to mount. Their rates were sometimes half of Bell's, and the United States was in an antimonopoly mood. Many rural communities started their own not-for-profit phone companies that were later sold to independents or Bell. By 1907 the independents operated 51% of all phones. AT&T was fighting back, having made the decision to take on the independents when it moved and changed its name. The company's first and most effective move was to slash rates. The arrogance of early company officials was replaced by a desire to please customers. AT&T also bought out independents, set up its own "independents" and used its political and financial clout to strangle competitors. AT&T's greatest advantage was its virtual monopoly of long-distance service—which it refused to let independents use.

The invention of a certain electric device, the loading coil, in 1899 gave long-distance service a push by allowing smaller-diameter wires to be used, which made underground long-distance cables feasible. They were implemented for an underground New York—Philadelphia line in 1906, but long-distance signals remained weak and difficult to hear until the invention of the vacuum-tube repeater in 1912.

Competition had given AT&T a necessary push, forcing it to expand and grow, but it also weakened its finances. Between 1902 and 1906 debt grew from $60 million to $200 million. Through a series of bond purchases starting in 1903, financier J.P. Morgan tried to wrest control of the company from the Boston capitalists, beginning a free-for-all that lasted several years. When the dust cleared in 1907, Morgan and his New York and London backers had won, and they brought back Vail as president. Vail had left in 1887 because of differences with the Bostonians, whose view was focused narrowly on short-term profit. Vail and his backers had a wider vision than the Bostonians, believing they should create a comprehensive, nationwide communications system.

In 1907 AT&T boasted 3.12 million telephones in service, but had a terrible public image, low staff morale, poor service, serious debts, and a bevy of technological problems. Within a decade Vail turned the company around, making it a model of corporate success. He soon sold millions of dollars in bonds by offering them at a discount to shareholders, which re-established confidence in the company. He also dramatically increased research and development, hiring talented young scientists and laying the foundation for what would, in 1925, become Bell Labs. Vail concentrated the company's visionaries into central management and left day-to-day network decisions to workers more interested in practical questions. For its first two decades AT&T had put profits for its shareholders above service for its customers; Vail was one of the first U.S. business leaders to balance profit with customer satisfaction.

At the same time, Vail was a monopolist, believing competition had no place in the telephone industry. He and Morgan set out to make AT&T the sole supplier of U.S. telecommunications services. In 1910 Vail became president of Western Union after AT&T bought 30% of Western's stock. For the first time telegrams could be sent and delivered by phone. Telephone and telegraph lines could back each other up in emergencies. AT&T gobbled up independent phone companies at an ever-increasing rate. When Morgan found an independent in financial trouble, he used his power as a leading banker to squeeze its credit, often forcing it to sell to AT&T. By 1911 AT&T had bought so many small independents that Vail consolidated them into a smaller number of state and regional companies. AT&T's ownership was motivated partly by profit, but also by the desire to ensure good service.

Antimonopoly pressures from consumers and government began to mount on AT&T well before then. A crucial turning point came in 1913, after Morgan's death, when Vail decided to sell Western Union and allow independents access to AT&T's long-distance lines. The move cost $10 million and ended AT&T's dream of a national telecommunications monopoly, but it won AT&T respect and ended growing pressure to dismember it.

By that time AT&T was working on the first coast-to-coast telephone line, using loading coils and repeaters. On January 25, 1915, Alexander Graham Bell, in New York, and former collaborator, Thomas Watson, in San Francisco, engaged in a coast-to-coast repeat of the first-ever telephone conversation 39 years earlier. AT&T was also making important progress in automatic switching systems and sent the first transatlantic radio message in 1915. As the telephone became a matter of national interest, pressure for federal regulation mounted, and Vail welcomed it as long as regulators were independent.

During World War I the AT&T network was used for domestic military communications. AT&T also set up extensive radio and telephone communications lines in France. The war pushed AT&T's resources to the limit, with a $118 million construction budget for 1917. In 1918 a year in which AT&T had 10 million phones in service, the U.S. government took over the telephone system. The government set rates and put AT&T under a branch of the post office, although the company continued to be run by its board of directors. One of the government's first decisions was to start a service connection charge. It then raised both local and long distance rates. Lower rates had been touted as a major benefit of public ownership. When the rates went up, support for government ownership collapsed, and in August 1919 the government gave up its control of AT&T. Vail retired in the same year, leaving the presidency to Harry Bates Thayer, and died in 1920.

AT&T grew rapidly as a regulated monopoly during the laissez-faire 1920s. The Graham Act of 1921 exempted telephony from the Sherman Antitrust Act. Of almost 14 million telephones in the United States in 1921, the Bell System controlled 64%; and 32%, although owned by independents, were plugged into the AT&T network. Commercial radio boomed, and AT&T entered cross-licensing patent agreements with General Electric, Westinghouse, and Radio Corporation of America, with which it was soon embroiled in legal disputes. By the end of 1925, AT&T had a national network of 17 radio stations. AT&T put its first submarine cable into service between Key West, Florida, and Havana, Cuba, in 1921. In 1925 Bell Labs became a separate company, jointly funded by AT&T and Western Electric. The same year, Thayer retired and was succeeded by Walter S. Gifford, who served for the next 23 years. His influence on the U.S. telephone industry was second only to Vail's.

Gifford quickly got AT&T out of radio and other side ventures, although it tried to establish a controlling interest in motion picture sound technology in the late 1920s. He reduced the fee licensees paid from the 4.5% of gross revenue established in 1902, to 4% in 1926, and 2% in 1928. AT&T stockholders grew from 250,000 in 1922 to nearly 500,000 in 1929. In 1929 Bell Labs gave the first U.S. demonstration of color television. By 1932 AT&T had the second-largest financial interest in the film industry, but sold it in 1936.

The first years of the Great Depression badly hurt AT&T. Many subscribers could no longer afford telephones. AT&T sales for 1929 were $1.05 billion; by 1933 they were $853 million. Western Electric sales in 1929 were $411 million; 1933 sales were $70 million. Western Electric laid off 80% of its employees, and AT&T laid off 20%.

By 1933 telephone use began growing again, and by 1937 it exceeded pre-Depression levels. During the late 1930s the newly formed Federal Communications Commission (FCC) conducted a long, damaging investigation of AT&T's competitive practices that reopened the battle over AT&T as a monopoly. In 1939 AT&T had assets of $5 billion, by far the largest amount of capital ever controlled by a corporation up to that time. It controlled 83% of all U.S. telephones and 98% of long-distance wires. Subsidiary Western Electric manufactured 90% of all U.S. telephone equipment. The FCC's final report was initially ignored due to the outbreak of World War II but had significant impact later.

Telephone use, particularly long distance, grew tremendously during World War II, with 1.4 million new telephones installed in 1941 alone. Western Electric and Bell Labs devoted themselves primarily to military work from 1942 to 1945, filling thousands of government contracts and making technological innovations. The most important work was in radar, the experience in which gave AT&T a huge lead when microwave radio relay became the principal means of transmitting long-distance telephone and television signals in the postwar period.

The FCC forced AT&T to lower rates during the war, and its plants and infrastructure were worn out by wartime production. AT&T's business boomed after the war, as population and prosperity increased, and the habit of long-distance telephoning acquired during the war continued. The company installed more than three million telephones in 1946. Benefits of wartime technology were many. Moving vehicles were brought into the telephone system by radio in 1946. Coaxial cable was first used to take television signals over long distances in 1946. Microwave radio began transmitting long-distance calls in 1947. Bell Labs brought out the transistor, a replacement for the vacuum tube and one of the important inventions of the 20th century, in 1948; its inventors won the Nobel prize in 1956.

The end of the war brought serious labor trouble. AT&T and the National Federation of Telephone Workers faced off over wages, working conditions, and benefits, producing a nationwide strike in 1947. Public opinion went against the strikers, and the eventual compromise favored AT&T.

Gifford retired in 1948 and Leroy A. Wilson became president. His first task was to push a rate increase past government regulators. He got one in 1949 that helped AT&T sell more stock to raise needed capital. As an outgrowth of the 1930s FCC investigation, the U.S. Department of Justice filed suit in 1949, seeking to split Western Electric from AT&T. AT&T succeeded in delaying the case until the Eisenhower administration, which was not as interested in regulation, took power. In the meantime the government talked Western Electric into taking over the management of an advanced weapons research laboratory. It formed Sandia Corp. in 1949 to do so. In the 1950s Western Electric worked on the Nike antiaircraft missiles, making $112.5 million on the venture. Western and Bell Labs worked with others on a huge air-defense radar system. These defense projects gave AT&T a powerful lever against the antitrust suit. In a consent decree in 1956 AT&T agreed to limit its business to providing common-carrier services and to limit Western Electric's to providing equipment for the Bell System, except for government contracts. The antitrust case was settled on this basis.

In 1951 Wilson died and Cleo Craig became president. In the next few years AT&T made it possible to dial directly to other cities without using an operator. This and ensuing developments enabled long-distance charges to be repeatedly reduced. In 1955 AT&T laid the first transatlantic telephone cable, jointly owned with the British Post Office and the Canadian Overseas Telecommunications Corporation. Craig retired in 1956, and Frederick R. Kappel became president.

AT&T was in enviable financial shape by the late 1950s, although some accused it of getting there by overcharging subscribers. The booming U.S. economy led to unprecedented calling volumes—particularly from teenagers, many of whom were getting their own telephones. Telephones moved from shared party lines to private lines, and telephone services like weather and time announcements became widespread, adding further revenue. AT&T split its stock three-for-one in 1959 and two-for-one in 1964. By 1966 AT&T had three million stockholders and nearly one million employees. In 1954 AT&T began offering telephones in colors other than black. In 1961 it developed Centrex, a system in which an office maintained its own automatic switching exchange; in 1963 it offered the first Touch-Tone service; in 1968 it brought out the Trimline phone, with the dial built into the handset. By 1965 the Bell System served 85% of all households in the areas in which it operated, compared with 50% in 1945. And it was providing a vast array of services at a vast array of rates.

AT&T formed Bellcom to supply most of the communications and guidance systems for the U.S. space program from 1958 to 1969. Bell Labs worked intensively on satellite communications, and the first AT&T satellite, Telstar, was launched in 1962. Comsat, a half-public, half-private company handling the United States's satellite communications, was founded in 1962, with AT&T owning 27.5% at a cost of $58 million.

AT&T worked on an electronic switching system throughout the 1950s and 1960s. The project was more complicated than expected, and by the time the first electronic equipment was installed in 1965, AT&T had spent about $500 million on the project. The speed and automation that electronic switches gave the phone system, however, made possible the vast increases in traffic volume in the 1970s and 1980s, as the United States moved to an information-based society.

In the 1950s and 1960s other companies began trying to capture specific portions of AT&T's business. The Hush-a-Phone Company marketed a plastic telephone attachment that reduced background noise. Microwave Communications Inc. (MCI) tried to establish private-line service between Chicago and St. Louis. Carter Electronics Corporation marketed a device that connected two-way radios with the telephone system. AT&T responded by forbidding the connection of competitors' equipment to the Bell System. Several FCC investigations followed, with decisions that created competition for terminal equipment and intercity private-line service. AT&T began to face serious competition for the first time in 50 years.

Kappel retired in 1967 and was replaced by H.I. Romnes, a former president of Western Electric. AT&T's earnings were leveling off after tremendous growth in the early 1960s. There also were service problems in 1969 and 1970, with numerous consumer complaints in New York. Similar predicaments followed in Boston, Denver, and Houston. AT&T borrowed money and raised rates to pay for repairs.

More serious problems were beginning for AT&T. In the early 1970s sales by the interconnect industry were growing, and businesses were buying telephone equipment from AT&T competitors. The U.S. Equal Employment Opportunity Commission accused AT&T of discriminating against women and minorities. AT&T, without admitting it had done so, signed consent decrees under which it agreed to increase the hiring, promotion, and salaries of women and minorities.

MCI claimed AT&T was still preventing it from competing and filed an antitrust lawsuit in 1974. The situation became disastrous when the DOJ filed another antitrust suit later in 1974, this time asking for the dismemberment of AT&T. The DOJ charged that AT&T had used its dominant position to supress competition. The suit dragged on for years.

During the years of the suit, AT&T continued to grow. Both 1980 and 1981 were years of record profits. The $6.9 billion AT&T made in 1981 was the highest profit for any company to that time.

The DOJ suit finally came to trial in 1981. By then AT&T and the government both wanted to settle the case. AT&T wanted to get into computers and information services, but was prevented by its 1956 agreement. In 1982 the FCC required AT&T to set up a separate, unregulated subsidiary called American Bell to sell equipment and enhanced services. In January 1982 AT&T and the DOJ jointly announced a deal to break up the Bell System, while freeing the remainder of AT&T to compete in non-long-distance areas like computers.

Federal Judge Harold Greene gave final approval for the AT&T breakup in August 1983. At that time AT&T was the largest corporation in the world; its $155 billion in assets made it larger than General Motors, Mobil, and Exxon combined. After the breakup, on January 1, 1984, AT&T had $34 billion in assets. Its net income dropped from $7.1 billion to $2.1 billion, and its work force from 1.09 million to 385,000. Its 22 regional operating companies were split off into seven regional holding companies, and AT&T lost the right to use the Bell name. AT&T stockholders received one share in each of the regional companies for every ten AT&T shares they owned. AT&T also lost the highly profitable Yellow Pages, which went to the regional companies.

The new AT&T consisted of two primary parts: AT&T Communications, the long-distance business, and AT&T Technologies, a group of other businesses that mainly involved the manufacture and sale of telecommunications equipment for consumers and businesses. Western Electric was broken up and folded into AT&T Technologies. Long distance was expected to provide the bulk of short-term revenue for the new AT&T, but the unregulated technologies group, backed by Bell Labs, was expected to quickly blossom. AT&T technologies initially concentrated on switching and transmissions systems for telephone companies. AT&T was losing ground to competitors in that sector and wanted to fight back. The company also worked on telephone-equipment sales, sold through AT&T phone centers and retailers like Sears. American Bell changed its name to AT&T Information Systems and began pushing computers. AT&T International quickly signed a deal with the Dutch company N.V. Philips to sell switching equipment throughout the world, setting up AT&T Network Systems International.

To help pay for the breakup, AT&T took a fourth-quarter charge of $5.2 billion in 1984, the largest to that time. AT&T, however, was now free to go into computers, a field it had longed to get into since the 1956 consent decree, and the company began spending hundreds of millions of dollars to develop and market a line of computers. James E. Olson became president of AT&T in 1985, cutting 24,000 jobs from the information division later that year to improve its profits. In 1986 Olson became chairman, and Robert E. Allen became president. Olson concentrated on centralizing management and refocusing company strategy around the idea of managing the flow of information.

The company chose Brussels, Belgium, as the site for its regional headquarters serving Europe, the Middle East, and Africa. It also began joint ventures with companies in Spain, Italy, Ireland, Denmark, South Korea, and Taiwan to get its telecommunications products into foreign markets. Still, foreign revenues accounted for only 10% of company earnings, compared with 40% for many other U.S.-based multinationals. Company earnings declined because of a slumping business-equipment market and greater-than-expected reorganization costs. Earnings also suffered from a drop in rental revenues as more AT&T customers decided to buy their telecommunications equipment outright.

Meanwhile AT&T's computer operations were in trouble. The company had developed a new operating system, Unix, for its computers. Unix had some advantages; but the users of personal computers were not familiar with it, manufacturers of larger computers were committed to their own proprietary systems, and buyers stayed away. AT&T computer operations lost $1.2 billion in 1986 alone. At the end of the year the company restructured its computer operations to concentrate on telecommunications-based computers and computer systems. It custom designed a system for American Express that automatically phoned customers while putting customer information on a terminal screen. At the end of 1986 AT&T cut another 27,400 jobs and took a $3.2 billion charge. Income for the year was only $139 million.

In 1987 the Justice Department recommended that the regional operating companies be allowed to compete with AT&T in long distance and telecommunications equipment manufacturing—its two core businesses. The idea was unacceptable to Judge Harold Greene, overseer of the AT&T breakup. Because of fierce competition from MCI and other companies, AT&T retained 76% of the long-distance market, down from 91% in 1983.

Unix made some gains in 1986 and 1987, and AT&T formed the Archer Group, a consortium of computer makers manufacturing Unix systems. It included Unisys and Sun Microsystems. After nearly $2 billion in losses in computers, the data systems group finally signed a major contract with the U.S Air Force in 1988. The $929 million contract for minicomputers provided only a slim profit margin, but AT&T hoped that the deal would push its computers over the top, make Unix an industry standard, and lead to further government sales. Olson died in 1988, and Allen became chairman.

MCI and others continued to erode AT&T's share of the $50 billion long-distance market, which stood at 68% at the end of 1988. To fight back, AT&T redeployed 2,500 employees to sales positions and aggressively tackled the business-communications market. AT&T also took a $6.7 billion charge to modernize its telephone network and cut 16,000 positions. As a result, the company lost $1.7 billion in 1988, its first-ever loss for the year. Some industry analysts, however, felt the company was finally turning around after four years of confusion and drift. It won two major government contracts that year. One, expected to earn AT&T $15 billion by 1989, was to build a new government telephone system. Competitor US Sprint Communications won a $10 billion contract for a second part of the same system. Regulators finally gave AT&T the right to match the low prices of MCI and US Sprint, leading to the end of the long-distance price wars waged since the AT&T breakup. AT&T showed a $2.7 billion profit for 1989, its largest since the breakup.

In mid-1990 AT&T raised its long-distance rates after low second-quarter earnings. It had been hurt by declining long-distance revenue and slow equipment sales. The company, however, soon made several important sales. It received an extension of a $100 million personal computer sale to American Airlines's Sabre Travel Information Network and signed an agreement to upgrade China's international communications system. AT&T made its first entry into Mexico's communications market, winning a $130 million contract from Mexico's national telephone company, Teléfonos de Mexico. It signed a $157 million contract to build an undersea fiber-optic cable between Hawaii and the U.S. mainland, and announced that it planned to build a high-capacity undersea cable between Germany and the United States, with Deutsche Bundespost Telekom. It also won a $600 million contract from GTE Corporation to build cellular network equipment.

Hoping to make money from its financial and information resources, AT&T launched a credit card, Universal Card, in early 1990. By late 1990 it was the eighth leading credit card in the United States, with revenue of $750 million. Wall Street analysts, however, expected the credit card's startup costs to hold back AT&T earnings until at least 1992. Bell Labs announced important breakthroughs in computer technology in 1990, including the world's first computer using light. Products based on the new technologies were years off, but AT&T continued to manufacture computers. AT&T signed an agreement with Japan's Mitsubishi Electric Corporation to share memory-chip technology, and licensed technology from Japan's NEC Corporation to make semiconductors. Late in the year, Philips, under financial pressure, sold back its 15% stake in AT&T Network Systems International.

In the early 1990s AT&T overseas ventures began bearing fruit. About 15% of its revenue, more than $5 billion yearly, came from international calling and sales to foreign buyers of equipment and services. In 1991 AT&T made a major acquisition in the computer industry, buying NCR Corporation through an exchange of stock valued at $7.4 million. AT&T officials said the purchase of NCR, which accounts for about 60% of its sales in international markets, put AT&T on the path to becoming a truly global company and a leader in networked computing. NCR had put out more new products than any other computer company in the preceding year. NCR officials saw advantages of the merger to be an increased customer base, access to the research and development capabilities of Bell Labs, and the addition of AT&T's technical, marketing, and sales resources.

Principal Subsidiaries: AT&T Capitol Corporations; AT&T Communications, Inc.; AT&T Communications of California, Inc.; AT&T Communications of Delaware, Inc.; AT&T Communications of Illinois, Inc.; AT&T Communications of Indiana, Inc.; AT&T Communications of Maryland, Inc.; AT&T Communications of Michigan, Inc.; AT&T Communications of the Midwest, Inc.; AT&T Communications of the Mountain States, Inc.; AT&T Communications of Nevada, Inc.; AT&T Communications of New England, Inc.; AT&T Communications of New Hampshire, Inc.; AT&T Communications of New Jersey, Inc.; AT&T Communications of New York, Inc.; AT&T Communications of Ohio, Inc.; AT&T Communications of the Pacific Northwest, Inc.; AT&T Communications of Pennsylvania, Inc.; AT&T Communications of the South Central States, Inc.; AT&T Communications of the Southern States, Inc.; AT&T Communications of the Southwest, Inc.; AT&T Communications of Virginia, Inc.; AT&T Communications of Washington, D.C., Inc.; AT&T Communications of West Virginia, Inc.; AT&T Communications of Wisconsin, Inc.; AT&T Credit Corporation; AT&T International Inc.; AT&T Microelectronica de España S.A. (Spain); AT&T Nassau Metals Corporation; AT&T Network Systems International B.V. (Netherlands); AT&T Paradyne Corporation; AT&T of Puerto Rico, Inc.; AT&T Resource Management Corporation; AT&T Universal Card Services Corp.; AT&T of the Virgin Islands, Inc.; Actuarial Sciences Associates, Inc.; American Transtech Inc.; Istel Group, Ltd. (United Kingdom); NCR Corporation.

5

Affidavit of Daniel Bartel

- Establishes products and operations, piping network to river and discharge history.

AFFIDAVIT OF DANIEL BARTEL

STATE OF NEW JERSEY §
§
COUNTY OF BERGEN §

Daniel Bartel upon his oath deposes and says:

1. I, Daniel Bartel, am a former employee of the Western Electric Company ("Western Electric") facility formerly located at 100 Central Avenue, Kearny, NJ. I was employed at the Western Electric facility during the period 1952 to 1985. During this time I held the position of plumber and inspector and had the opportunity to work in a number of areas within the facility.

2. Some of the products manufactured at the Western Electric facility included: cables (insulated with lead and polyethylene), telephone switch boards, copper wire, and transformers. The transformers were manufactured at the facility for approximately twenty five (25) years. The Western Electric facility also utilized plating operations. The plating operations were originally performed in buildings #170 and #30 but were subsequently moved to building #185 upon completion of Western Electric's waste water treatment plant circa 1973.

3. Because of my position as a plumber I become very knowledgeable of the sanitary and storm sewers at the Western Electric facility. The outfalls identified on the attached map as #001, #002, #003, #004, #005 and #006 all discharged to the Passaic River. Outfall #001 was a cooling water drain for the facility power plant condenser. Outfalls #003, #004, #005, and #006 were storm sewer drains. Outfall #002 was used to discharge treated waste water that was being generated from the facility waste water treatment plant.

4. Prior to the waste water treatment plant coming on line at the Western Electric facility all process waste water generated from the plating operations within buildings #170 and

#32
~~#30~~ were treated and discharged to the Passaic River through the storm sewers. I did not know how this plating waste water was treated.

5. I have marked upon the enclosed map the approximate locations where waste lines from building #170 and ~~#30~~ #32 were connected to facility storm sewer lines.

6. There were two drains located within the drum storage area which was located at the southern end of the facility. These two drains discharged to the Passaic River through the facility's storm sewers. I have marked upon the enclosed map the location of this drum storage area.

7. On occasions the Western Electric facility would flood. The flooding which was caused by the combination of heavy rains and the high tides from the Passaic River would back up the facility storm sewers.

Daniel Bartel

Sworn to before me this 2 day of May, 1996

Notary Public

State Of New Jersey
Notary [illegible] Commission
[illegible] Boyle
My Commission [illegible] 10/31/00
Notary [illegible] 2033395

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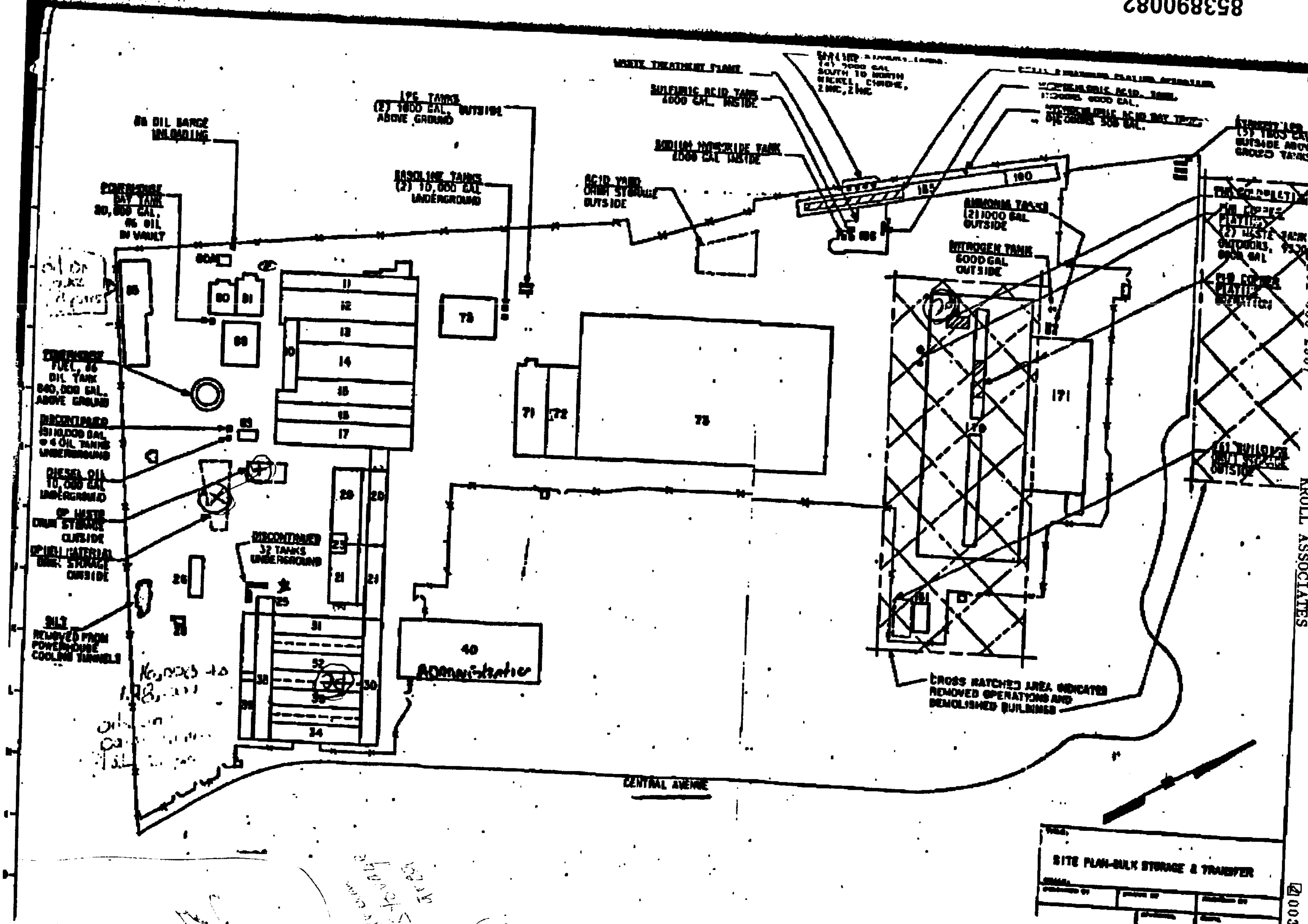

(+) approximate location of plating process waste connections to storm sewers

5-30-96

6

Excerpts from the Environmental Cleanup Plan AT&T Technologies, Inc. dated November 1984. Prepared by Environmental Research & Technology, Inc.

- Provides description of plating operations and waste water treatment plant.

RCVC
12-6-84

ENVIRONMENTAL CLEANUP PLAN
AT&T TECHNOLOGIES, INC.
(Formerly Western Electric)
KEARNY WORKS - PLATING SHOPS
AND WASTE TREATMENT PLANT

ERT Document Number D367-100B/4811A

November 1984

Prepared for

AT&T Technologies, Inc.

Prepared by

Environmental Research & Technology, Inc.
601 Grant Street Pittsburgh, Pennsylvania 15219

853890085

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1.0 INTRODUCTION

AT&T Technologies Inc. (formerly Western Electric) is in the process of decommissioning and decontaminating its plant located at 100 Central Avenue in Kearny, New Jersey. It is intended that the facility will be sold. The purpose of this document is to describe the proposed decontamination procedures for the Plating Shop (Building 185), miscellaneous equipment areas in Building 171, and the Waste Treatment Plant (Building 186).

AT&T is currently exploring an agreement with a prospective occupant which may eventually operate Building 185 as a plating shop. The plating operations proposed by the occupant are slightly different than the operations currently used by AT&T; however, the existing equipment can be used by the new plating operation with minor or no modifications. If the existing equipment can be cleaned and left in place, its economic value is substantially increased.

The decontamination work plan described in this document takes into consideration the benefits of cleaning the equipment in place or removing the equipment, in conjunction with the overall economic value associated with either decontamination option. The level to which the plant will be decontaminated is one where visible levels of deposits will be removed and general manufacturing areas will be cleaned as necessary. The main objectives of the decontamination plan are to clean the equipment and work areas to avoid possible adverse effects from mixing incompatible chemicals and to avoid possible health hazards to construction/maintenance workers that may be working on the equipment during future plant remodeling or retrofitting.

2.0 PLANT DESCRIPTION

2.1 Plating Shop (Building 185)

2.1.1 General Description

There are seven different plating lines as shown in Table 2-1. The basic plating operation consists of sequentially dipping the metal parts to be plated into the various tanks that contain plating solutions and water rinses. A typical process line consists of caustic cleaning, acid pickle dipping, metal plating and drying, generally with water rinse baths in between each process step. Many of the solutions are heated to accelerate the reactions taking place in the bath. The plating operation housed in this building covers an area on the second floor of approximately 50 feet by 600 feet.

2.1.2 Ductwork

Tanks that produce harmful gases or strong odors are vented to one of three separate duct systems: cyanide, chrome or acid/alkali. Each vented tank has an air intake hood mounted directly above it in order to direct the vapors away from plant personnel. The fumes are pulled through the ductwork by centrifugal fans that are mounted on a second story platform to the west of Building 185. There are a total of twelve fans each venting to a separate stack. Seven vent the acid/alkali ducts; two vent the chrome ducts; and three vent the cyanide ducts. A total of nine liquid contact scrubbers are located in the acid/alkali and chrome lines immediately upstream of the fans. The cyanide duct systems do not have any scrubbers. The material of construction for the vent hoods, duct work, scrubbers, fans and stacks, is fiberglass reinforced plastic. Polypropylene tellerette packing material is used as the contact media in the scrubbers.

2.1.3 Equipment

Three plating lines are completely automatic: Zinc 1, Zinc 2, and Nickel-Chrome. The Horizontal Barrel line is also automatic and the other three lines (Still and Oblique, Acid Dip and Precious Metal)

853890091

TABLE 2-1

PLATING LINES

*Precious Metals

Still and Oblique

Acid Dip and Clean

Horizontal Barrel

Automatic Zinc 2

Automatic Zinc 1

Automatic Nickel-Chrome

*All Precious Metals tanks and hoods have been removed and shipped to another plant.

NOTE: Listed in order from north to south.

are completely manual. The automatic lines have a continuous overhead conveyance system that dips each item being plated into the proper bath for a specified time period and then automatically advances the item to the next rinse or bath.

There is a great deal of electrical equipment in the plating area that powers both the electroplating equipment and heaters. Most of the acid and caustic baths are heated with steam or submersion heaters. Some tanks also have small pumps that circulate the plating fluids through filters to remove the solids generated during the plating process.

2.1.4 Drainage Pans and Lines

There are seven different gravity drain lines from the plating shop that feed the waste treatment plant. Four are in a concentrated service and three are in a dilute service. A listing of these lines is shown in Table 2-2. The drainage lines are primarily used to drain spent process fluids from the plating tanks but also serve as general area drains. The general area drains are fed by a series of pans that are located beneath the plating shop which are used to collect any spills that may occur in the shop. Pans that are below tanks containing cyanide solutions drain to the concentrated cyanide drain line and the rest of the pans drain to the concentrated chrome drain line.

2.2 Waste Treatment Plant (Building 186)

2.2.1 General Description

The waste treatment plant takes the liquid wastes generated by the plating operation and, after a series of treatment and settling steps, discharges the treated liquid effluent into the Passaic River. The water is also reused in the process when there is sufficient demand.

853890093

TABLE 2-2

PLATING AREA DRAINAGE LINES

Concentrated Chrome

Dilute Chrome

Concentrated Cyanide

Dilute Cyanide

Concentrated Acid

Concentrated Alkali

Dilute Acid/Alkali

2.2.2 Equipment

The three plating operation effluents (chrome, cyanide and acid/alkali) are initially handled separately and are individually treated prior to mixing for the settling and final pH correction steps. Dilute wastes, fed from the scrubber hold tanks and dilute rinse process tanks, are mixed with a metered amount of concentrated wastes and are then treated. Effluents from these individual treatment steps are rapid mixed and sent to the clarifier where the solids are removed by gravity settling. The clarified effluent then undergoes a final pH correction and is discharged as necessary to the Passaic River. The thickened sludge is sent to a vacuum precoat filter where the solids are removed for disposal in a secure landfill. Figure 2-1 is a schematic of the process flows for the Waste Treatment Plant.

2.3 Component Manufacturing (Building 171)

This building is primarily used for metal parts manufacturing; however, three areas will be decontaminated as part of this work plan.

2.3.1 Trichloroethylene Degreaser

This unit is a three stage degreaser used for parts cleaning and is situated in an area approximately 50 feet by 50 feet on the south side of the building. The unit is equipped with a solvent recovery still and two vapor carbon adsorption units. Two carbon units are utilized so that the degreaser can be operational while one of the units is being regenerated. The degreaser is a totally enclosed unit, therefore there are no trichloroethylene feed pipes associated with this system that will need to be decontaminated.

2.3.2 Aluminum Etch and Clean Area

The aluminum etch and clean machines were both located on the north side of the building and covered an area of approximately 80 feet by 40 feet. Both machines have been dismantled and sent to another AT&T plant. All that remains of these operations are two 3"

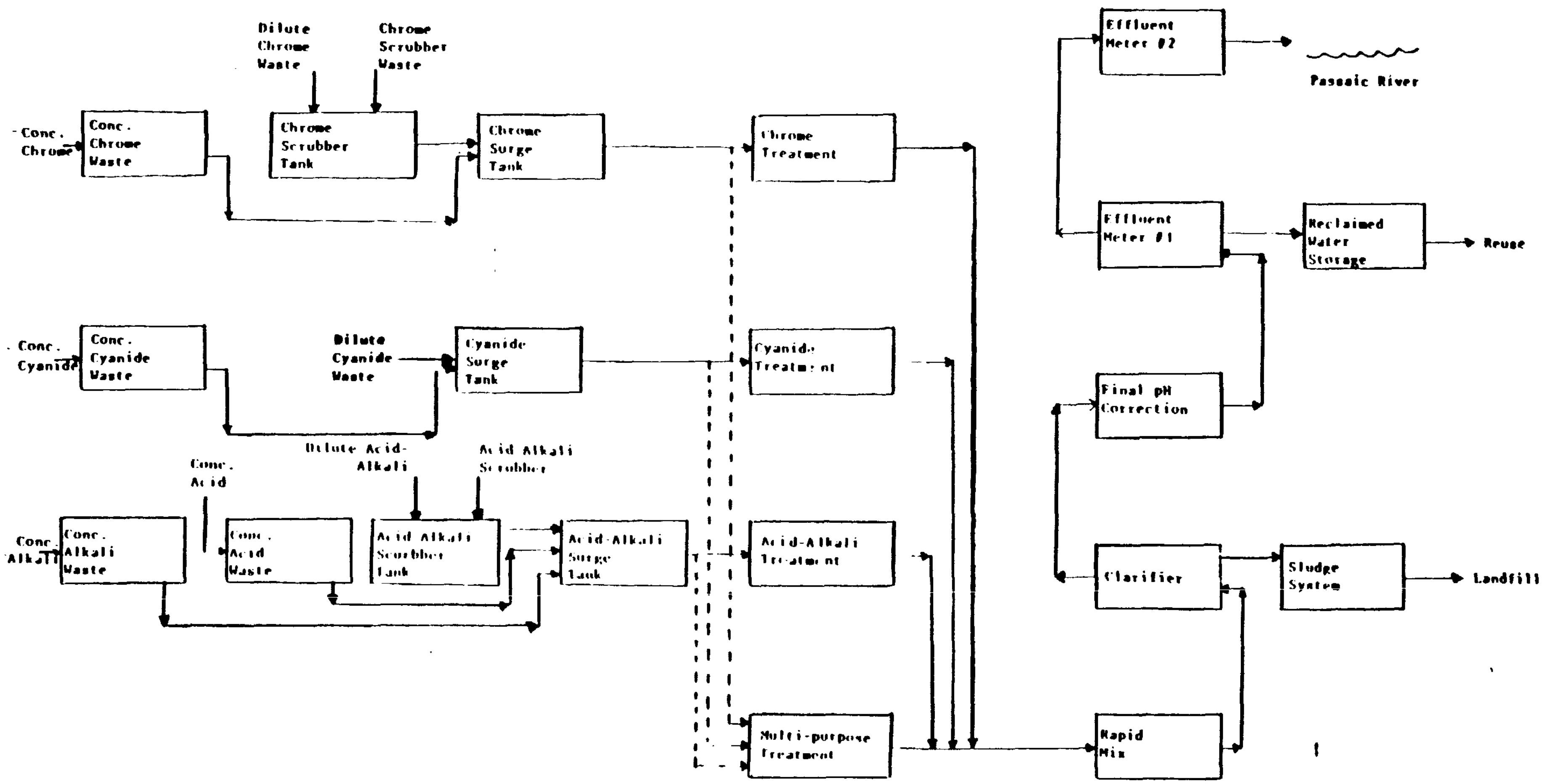

Figure 2-1 Waste Treatment Plant Flow Schematic

PVC plastic pipes, one which formerly transferred dilute chrome wastes and the other transferred acid/alkali wastes. These pipes fed into the main carbon steel saran lined drain pipes which travel underground and eventually feed the waste treatment plant in Building 186 after tying into the plating operation drainage lines in Building 185.

2.3.3 Heat Sink Room

The heat sink operation formerly covered an area of approximately 60 feet by 30 feet on the west side of the building. This operation has already been dismantled and shipped to another plant. The only remnants of this operation are two 2" fiberglass reinforced plastic pipes that carried dilute chrome and acid/alkali wastes to the two carbon steel saran lined pipes that feed the waste treatment plant as described in Section 2.3.2.

7

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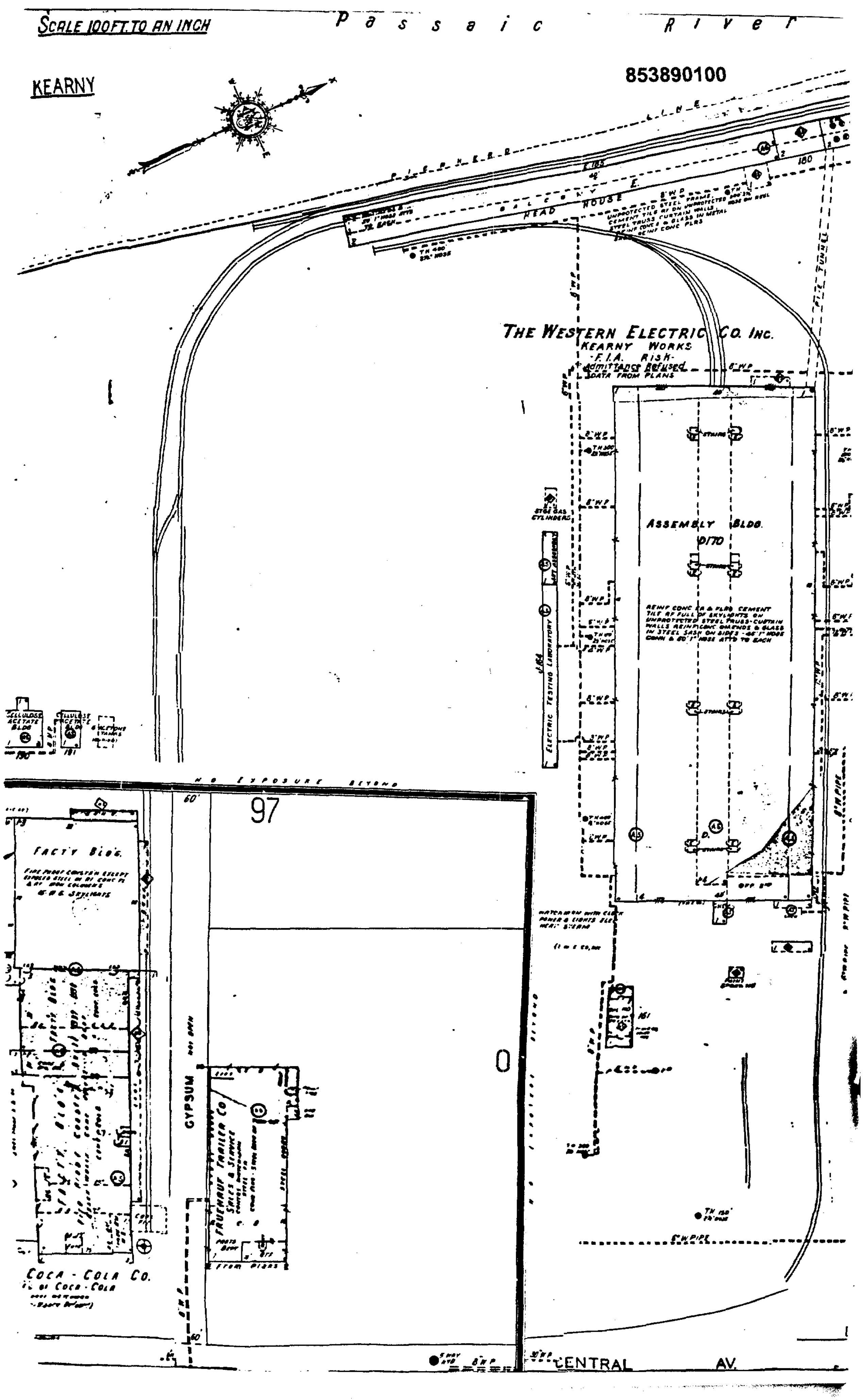
1950 Sanborn Maps

- Establishes process locations.


SCALE 100 FT. TO AN INCH
Passaic River
KEARNY
853890100
THE WESTERN ELECTRIC CO. INC.
KEARNY WORKS
F.I.A. RISK
Admittance Refused
DATA FROM PLANS
HEAD HOUSE
ASSEMBLY BLDG.
ELECTRIC TESTING LABORATORY
CELLULOSE ACETATE BLDG.
NO EXPOSURE BEYOND
97
FACT'Y BLDG.
GYPSUM
FRUEHAUF TRAILER CO
SALES & SERVICE
COCA-COLA CO.
0
CENTRAL AV.

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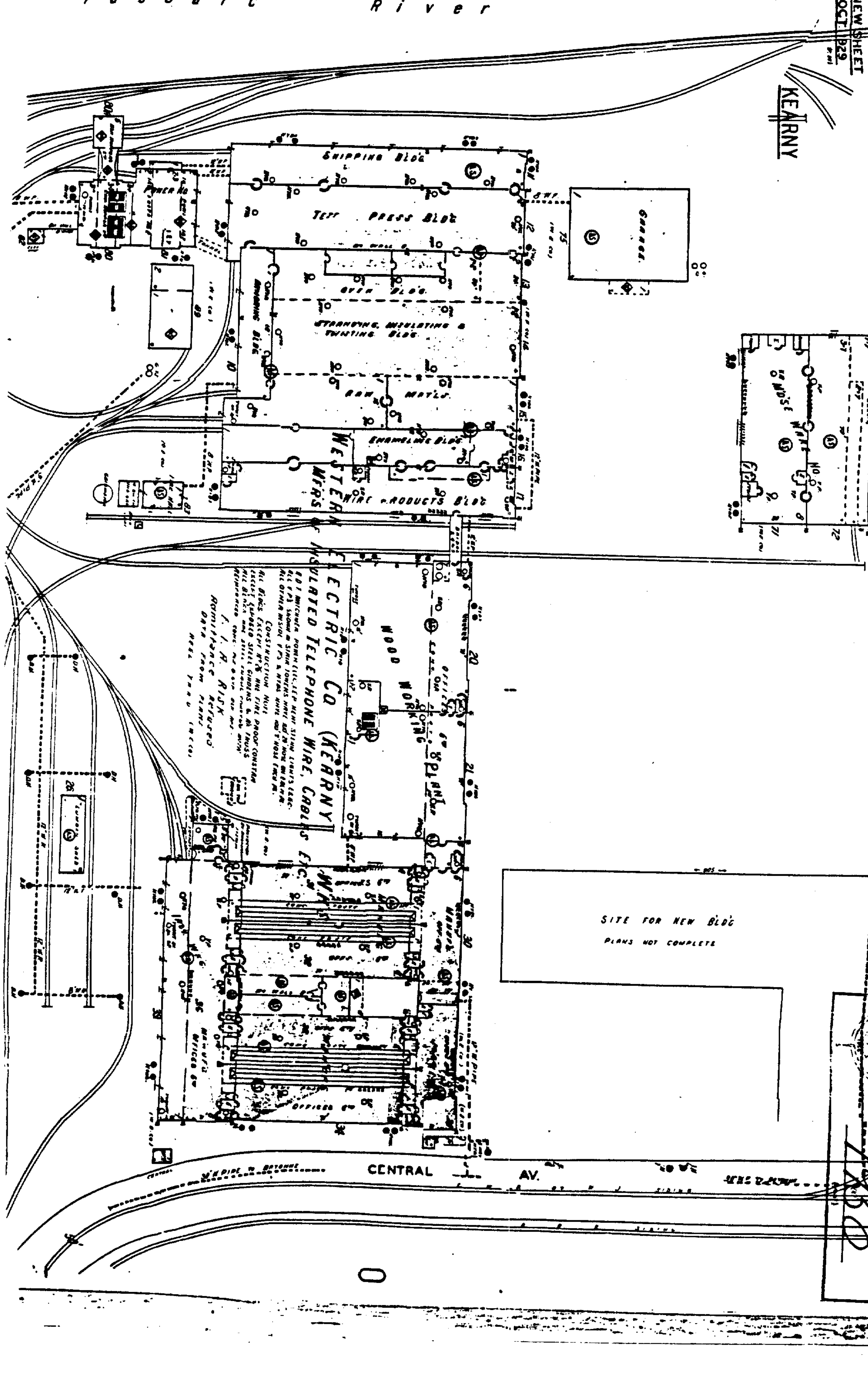

Passaic River
NEW SHEET
OCT. 1929
KEARNY
SHIPPING BLDG
POWER HO
TERR PRESS BLDG
GARAGE
OVEN BLDG
STRANDING, INSULATING & TWISTING BLDG
RAW MATLS
ENAMELING BLDG
WIRE PRODUCTS BLDG
WESTERN ELECTRIC CO (KEARNY WKS)
MFRS OF INSULATED TELEPHONE WIRE, CABLES EC.
WOOD WORKING PLANT
F. I. A. RISK
SITE FOR NEW BLDG
PLANS NOT COMPLETE
CENTRAL
AV.

8

853890102

AT&T Initial ECRA Notice Submission dated February 6, 1984 and Environmental Evaluation Measurement Plan Kearny Works AT&T Technologies dated May 1984.

- Establishes site ownership, products and operations, raw materials and wastes, and discharge history.

Rec'd 2 9 F... 984

AT&T
Technology Systems

R. B. BUTTERFIELD, JR.
General Manager
Kearny Works

100 Central Avenue
Kearny, N. J. 07032
201 465-4001

February 6, 1984

ECRA OFFICE
Division of Waste Management
New Jersey Department of Environmental Protection
CN-028
Trenton, New Jersey 08625

Attention: Initial ECRA Notice Submission

Gentlemen:

Re: Initial Notice Required by the Interim Environmental Cleanup Responsibility Act Regulations, N.J.A.C. 7:13

Pursuant to the subject Regulations, we submit the enclosed written Notice of the decision to cease operations at the Kearny Works location of A.T.&T. Technologies, Inc., formerly Western Electric Co., Inc.

The original public notice to close was published prior to the passage of the Environmental Cleanup and Responsibility Act (ECRA). To comply with ECRA, a letter of notification was sent to Mr. Joe Schmidt of the Office of Regulatory Services on December 7, 1983. A copy is attached.

Kearny Works is a large location with diverse operations. The closure will proceed gradually over a period of several years. Some materials, whose disposal is proposed in the Notice, may ultimately remain on the site under the terms of sale for the property. Any environmental cleanup plan must therefore be flexible with respect to timing and details.

To the best of our knowledge, the attached Notice is a thorough and accurate representation.

Very truly yours,

R B Butterfield Jr.

Att.

853890104

WRITTEN NOTICE OF DECISION TO CLOSE OPERATIONS

FOR THE

KEARNY WORKS LOCATION

OF

A.T.&T. TECHNOLOGIES, INC.
(FORMERLY WESTERN ELECTRIC CO., INC.)

Index

1. OWNERSHIP

The property being closed is known as Kearny Works.

The property is currently owned by AT&T Technologies, Inc. whose name was changed from Western Electric Company, Inc.

The property location is:

Lots 8, 9 and 10 of Block 288 & Lots 8.A & 8.C of Block 294
Municipality of Kearny
County of Hudson

2. SITE MAPS

Two maps are appended. The first map locates and describes all major areas of concern except electric power transformers. The second map locates transformers filled with mineral oil and polychlorinated biphenyls (PCBs), and the area in which a small quantity of containerized PCBs is stored.

Neither map shows a strip of land 44 feet wide by approximately 3,000 feet long on the east side of Central Avenue paralleling the east property line. This strip has never been used by AT&T Technologies, Inc., for any purpose associated with hazardous materials.

3. DESCRIPTION OF OPERATIONS

The Kearny Works location of AT&T Technologies, Inc., employs approximately 4,000 people (early 1984 figures) in 36 buildings, some multi-story, on a 147 acre tract on the South Kearny peninsula. The location is used primarily for the assembly of electro-mechanical devices required to interconnect the national telephone network.

Electromechanical assembly itself is generally an environmentally clean operation, but some support operations use materials and generate wastes which require special consideration. Among these operations are plating, cleaning or degreasing, organic coating and lubrication. To supply these operations, small quantities of containerized chemicals, solvents, coating materials and oils are stored, primarily in using shops, but occasionally in outdoor storage yards. Waste materials are accumulated in an authorized waste yard prior to disposal in accordance with the Resource Conservation and Recovery Act.

Auxiliary functions necessary for plant operation, such as a Powerhouse, a Garage and electrical distribution, require fuel tanks and oil containing transformers.

All fixed operations discussed in Section 3 are located on the site maps in Section 2 and detailed in the following Section 4, Storage Facilities.

There has never been on-site disposal of hazardous materials.

4. STORAGE FACILITIES

The site maps in Section 2 of this Notice have a vertical (alphabetical) grid index on the left hand side, and a horizontal (numerical) grid index along the top. The following paragraphs discuss storage facilities in a clockwise order of rotation beginning in the lower left corner of the first site map titled, "Site Plan - Bulk Storage and Transfer."

1. Building 25, Grid Index J-4, has 32 adjacent underground tanks. The tanks range in capacity from 500 gallons to 4,000 gallons. The tanks contained oils and paint thinners but were drained and filled with sand approximately 20 years ago. No action is therefore necessary.

2. A small amount of silt pumped from Powerhouse cooling water tunnels was examined for contaminants and deposited at Grid Index J-2 several years ago. A laboratory report on the silt is included in Section 16 of this Notice. The silt is environmentally innocuous, and no action is therefore necessary.

3. An outdoor storage yard for virgin materials and another for waste materials are located at Grid Index I-3. The materials are stored on impervious pavement, and no spills have occurred. See action proposed under Section 9 of this Notice, Decontamination, Decommission and Disposal, Procedure No. 1.

4. Four, 10,000 gallon, underground tanks are located south of Building 83 at Grid Index H-3. Three tanks contained No. 4 oil and were drained and filled with sand approximately 15 years ago, therefore no action is needed for these tanks. The fourth tank contains diesel oil. It is currently in use, well maintained and regularly gauged. No leakage is evident. See action proposed under Section 9, Procedure No. 2.

5. The 840,000 gallon, Powerhouse standby, No. 6 oil tank is at Grid Index G-3. The tank floor is a heavily reenforced, sixteen inch thick concrete slab on a piling grillage 3 ft., 10 in. on centers in both directions. The steel tank walls are entirely visible with no evidence of leakage. The tank is surrounded by a steel dike of adequate capacity to contain a complete rupture. The tank is well maintained and regularly gauged. See action proposed under Section 9, Procedure No. 1.

6. Building 85 basement, Grid Index E-1, has some slightly oily liquids in pits and dried, copper-bearing sludge on the floor. See action proposed under Section 9, Procedure No. 1.

7. The 20,000 gallon, Powerhouse, No. 6 oil day tank, Grid Index F-3, is in an underground vault and not used. There is no evidence of leakage. See action proposed in Section 9, Procedure No. 2.

8. The Garage, Grid Index E-7, has two underground 10,000 gallon gasoline tanks. The tanks are well maintained, regularly gauged and show no evidence of leakage. See action proposed in Section 9, Procedure No. 2.

9. There are two, above ground, 1,800 gallon, liquefied petroleum gas tanks at Grid Index E-8 and three more at Grid Index B-19. Any spills would instantly volatilize. See action proposed in Section 9, Procedure No. 2.

10. Raw materials and empty drums are stored on impervious pavement in an outside yard at Grid Index E-12. See action proposed in Section 9, Procedure No. 1.

11. Numerous above-ground tanks serve the plating operations and its associated Waste Treatment Plant, along with a conveyorized paint line washing machine in Building 185. Refer to Grid Index D-13. The entire train of tanks, piping, exhaust ductwork and pollution control equipment will be decontaminated as outlined in Section 9, Procedure No. 3.

12. Buildings 170 and 161, Grid Index I-15, were environmentally cleaned and demolished in 1981. No action is therefore necessary.

13. Building 171 has two, outside, above-ground, 1,000 gallon, anhydrous ammonia tanks and one, 6,000 galon, liquefied nitrogen tank at Grid Index E-17. Any spills would instantly vaporize. See action proposed in Section 9, Procedure No. 4.

14. Building 171 has a small heat sink oxidizing operation at Grid Index E-17 and a washing machine with cleaning tanks at Grid Index F-18. All are effluent-piped to the Waste Treatment Plant and will be decontaminated aong with Building 185 plating solutions as outlined in Section 9, Procedure No. 3.

15. Air conditioning is provided to a number of buildings via the circulations of chromated, chilled water generated in the Powerhouse, Grid Index E-3. See action proposed in Section 9, Procedure No. 3.

16. Prior to 1963, a large coal pile was maintained in the area defined by Grid Indices F-H-2-3. The weight of the coal probably produced soil settlement, and there may be a thin layer of coal fines under the current gravel surface. this is environmentally harmless, therefore no action is required.

Refer also to Section 6 of this Notice for a inventory of numerous small quantities of hazardous materials which fall within the purview of the Cleanup Regulations.

5. PRIOR OPERATIONS

A drawing showing the various parcels of property which constitute the Kearny Works tract is appended to this section. The names of prior owners are listed on the parcels.

6. HAZARDOUS SUBSTANCE INVENTORY

1. The following operations have small quantities of the substances listed:

Item	Location*	Shop	Material
1. Degreaser, Open Tank, Vapor	71-7,S-21	Jack Shop	1,1,1 Trichloroethane
2. Mass Solderer	71-6,S-23	Back Plane	Flux
3. Degreaser, Open Tank, Vapor	71-6,S-22	Back Plane	Chlorofluorocarbon
4. Degreaser Open Tank, Cold	71-4,R-17E	Tool Const.	Varsol
Degreaser Open Tank, Cold	71-4,R-17W	Tool Const.	Varsol
5. Mass Solder & Cleaner	71-2,X-20	K.E.	Chlorofluorocarbon
6. Barrier Coating	71-2,P-25	Mini Relay	Chlorofluorocarbon
Barrier Coating Cleaning	71-2,P-25	Mini Relay	Chlorofluorocarbon
7. Mass Solderer & Cleaner	71-1,X-26	TB-40	Perchloroethylene
8. Finger Cleaning	71-1,X-26	TB-40	Perchloroethylene
9. Finger Cleaning	71-1,X-23	TB-40	Perchloroethylene
10. Finger Cleaning	71-1,X-18	Model Shop	Perchloroethylene
11. Lacquer Spray	73-1S,C-10	TB-20	Lacquer and Thinner
12. Mass Solderer & Aqu. Clean.	73-1S,D-10	TB-20	Flux and Cleaner
13. Finger Cleaning	73-1S,D-10	TB-20	Perchloroethylene
14. Coil Varnish Tank 1, East	73-1 NE	Coil	Water Reducible Varni
2	73-1 NE	Coil	Water Reducible Varni
3	73-1 NE	Coil	Water Reducible Varni
4, West	73-1 NE	Coil	Water Reducible Varni
16. Coil Varnish Autosoak	73-1 NE	Coil	Water Reducible Varni
17. Coil Epoxy Degreaser	73-1 NE	Coil	Chlorofluorocarbon
20. Consruction Paint Spray	85-1	Const.	Paints
21. Cross Bar Degreaser	171-S	Piece Part	Trichloroethylene
22. Spray Booths South	185-1S	Met.Fin.	Paints and Sludge
23. Spray Booths North	185-1N	Met.Fin.	Paints and Sludge
24. Degreaser,Open Tank,Cold,So.	Garage	Garage	Varsol
Degreaser,Open Tank,Cold,W.	Garage	Garage	Varsol

See Decontamination, Decommission and Disposal actions outlined in Section 9 of t Notice, Procedure No. 5.

* Building-Floor-Column Number

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2. The second map in Section 2 of this Notice locates all large oil or P.C.B.filled transformers on the premises as well as P.C.B.'s in storage. It is expected that the 11, P.C.B. filled, functioning transformers and the mineral oil filled transformers will be sold intact with the property. See Section 9, Procedure No. 1, regarding disposal of the other P.C.B.'s in storage in Building 25 at Grid Index K-3.

3. In addition to items in 1 and 2 above and the storage facilities listed in Section 4 of this Notice, almost every shop has small varying quantities of of general purpose solvents, inks, etc. An inventory of these and laboratory supply materials would be difficult to get and would be valid only for a very brief period. See Section 9, Procedure No. 5, for an assignment of responsibilty for the collection and disposal of these materials as individual shops are shut down or transferred.

4. Asbestos is bonded into old piping, boiler insulation, friction materials and, and, in very small amounts, in some floor tile. It is assumed that boilers, piping and functioning insulation will be sold intact with the buildings. See Section 9, Procedure No. 1, covering residual loose floor tile and friction materials.

5. A small amount of groundskeeping materials, fertilizer, pesticides, etc., is currently stored in Building 23, Grid Index I-5. This material is being depleted, and the groundskeeping function will be contracted prior to the final plant shutdown. No other action will therefore be required.

6. The central Powerhouse air conditioning plant, Grid Index E-3, has approximately 10,000 pounds of volatile refrigerant in closed systems. See Section 9, Procedure No. 4, for action if this equipment is not sold intact with the property.

No hazardous materials will remain on the site except those required with the sale of the property.

7. SPILL HISTORY

To the best of our knowledge, only one minor incident occurred during the historical operation of the site.

In 1976, a small amount of chromate-contaminated scrubber water spilled from a frozen burst pipe onto ice and snow at Grid Index C-15 on the site map in Section 2 of this Notice. No chromates entered drains or percolated into the soil since the water froze almost instantly. The contaminated snow was shoveled into drums, melted and processed through our Waste Treatment Plant.

This incident was reported to the New Jersey Department of Environmental Protection and the Coast Guard. No penalty was imposed and no action was required.

To guarantee control of a possible recurrence, we installed secondary containment at our own volition. There has been no recurrence.

8. <u>SAMPLING PLAN</u>

A copy of the Chemtech Laboratory report on the silt removed from the Powerhouse cooling water tunnels and deposited at Grid Index J-2 is appended to Section 16.

A hydrogeoligical analysis of the Kearny Works location would be extremely difficult to make, if it is possible at all.

The property is on the deltaic confluence of the Passaic and Hackensack Rivers at Newark Bay. Buildings are piling supported on loose sediments which are 80 to 100 feet deep. A typical stratigraphic analysis is attached to Section 16 of this Notice. Below the loose sediments is shale. Ground water is slightly saline and is subject to tidal flushing and continuous southward migration with the flow of the two rivers. Tidal flushing washes river water into and out of the subsurface sediments. All of the property is under the 100 year flood plain elevation and has been subject to numerous floodings from the Passaic River in recent memory. There is no surface water on the property.

In view of the extraordinary hydrogeological complications, the lack of a spill history, the relatively small potential for spills and the very long period of carefully controlled, well maintained operation by A.T.&T. Technologies, formerly Western Electric Co., Inc., we respectfully submit that soil or ground water sampling would show nothing more than what is in the river and would not be informative.

9. DECONTAMINATION, DECOMMISSION AND DISPOSAL

The margin numbers below cross-refer to paragraph numbers in Section 4, Storage Facilities, and Section 6, Hazardous Substance Inventory.

In general, all hazardous material inventories will be depleted in production to the extent possible. The irreducible remainder of raw materials plus all wastes will tentatively be handled as follows:

Ref.	Procedure No. 1 - General
4-3 4-6 4-10 6-2 6-4	Residual raw materials and wastes will be properly packaged or containerized and shipped to Chemical Waste Management, Inc., Emelle, Alabama. Plating type wastes will be processed through the Waste Treatment Plant.

Ref.	Procedure No. 2 - Fuels
4-4 4-5 4-7 4-8 4-9	Remaining fuels, not sold with the property, will tentatively be sold as reclaimable fuels to Flowen Oil Co., Camden, New Jersey, or will be returned to their suppliers. Drained underground tanks will be filled with sand.

Ref.	Procedure No. 3 - Plating Type Materials
4-11 4-14 4-15	After shutdown of the plating operations is authorized, all plating type wastes will be processed through the Waste Treatment Plant and the process tanks will be rinsed clean.
	Plating exhaust hoods, ductwork, scrubbers and scrubber stacks will be disassembled and rinsed clean. Rinse water will be processed through the Waste Treatment Plant.
	Chilled water will be trucked to the Waste Treatment Plant and treated. The Waste Treatment Plant will then rinse and manually decontaminate itself. Waste Treatment Plant sludge will tentatively be trucked to C.E.C.O.S. International, Niagara Falls, New York.

Ref.	Procedure No. 4 - Liquefied Gases
4-13	Residual liquefied nitrogen will be returned to the supplier, Airco Inc., King of Prussia, PA. Residual anhydrous ammonia will be returned to the supplier, Hamler Industries Inc., New Haven, Connecticut.
6-6	Residual chlorofluorocarbon refrigerants will be shipped to Rollins Environmental Inc., Bridgeport, New Jersey for controlled incineration.

Ref.	Procedure No. 5 - Responsibility
6-1 6-3	As shops close or are transferred, shop product engineers are responsible for a total inspection of the shop and collection and transfer of all hazardous materials to the on-site authorized hazardous waste area. Then the wastes will tentatively be shipped to Chemical Waste Management, Inc., Emelle, Alabama. Shop product engineers will work in consultation with our full time, in-house professional Environmental Enginering Staff. The Environmental Engineering Staff will be responsible for final inspection of all vacated premises and decommissioned facilities.

10. ENVIRONMENTAL PERMITS

1. N.J.D.E.P. Air Pollution Permits in effect include No's 12496, 12775 12776, 12777, 12787, 12802, 43521, 16447, 16448, 16449, 16450, 43203, 22526, 22527, 22528, 40129, 40130, 43091, 43094, 48837, 48838, 48839, 48840, 48841, 49777, 49778, 49779, 49780, 49781, 49782, 52218, 52219, 52220, 52221, 52222, 52223, 1-2655, 1-2656, 1-2657, G7174, G043677.

2. Kearny Works is subject to N.P.D.E.S. Permit No. N.J.-0020443 for six outfalls into the Passaic River.

3. Kearny Works is an authorized hazardous waste generator and storage facility under Environmental Protection Agency Identification No. N.J.D. 002139053.

11. <u>VIOLATIONS</u>

To the best of our knowledge, no enforcement acts for violations of any environmental laws or regulations whatsoever have, at any time, been applied to Kearny Works.

Approximately 10 years ago, the New Jersey Department of Environmental Protection issued a citation for an alleged violation of the Sulfur in Fuels Law. The citation was promptly rescinded when we pointed out that it was in error.

12. <u>PUBLICIZED CLOSURE ANNOUNCEMENT</u>

Copies are appended to this Section.

ENVIRONMENTAL EVALUATION MEASUREMENT PLAN

KEARNY WORKS

AT&T TECHNOLOGIES, INC.

(Formerly Western Electric Company)

ERT DOCUMENT No. D231

May 1984

Prepared for

AT&T Technologies, Inc.

New York, New York

Prepared by

Dr. William A. Duvel, Jr., P.E.

ENVIRONMENTAL RESEARCH & TECHNOLOGY, INC.
696 Virginia Road, Concord, Massachusetts 01742

June 6, 1984 Sampling Pl

TABLE OF CONTENTS

1. INTRODUCTION

This Environmental Evaluation Measurement Plan has been developed to meet the requirements of N.J. A.C. 7:1-3.7(d)14 with respect to cessation of activities at the Kearny Works of AT&T Technologies, Inc. (formerly Western Electric Company, Inc.), 100 Central Avenue, Kearny, New Jersey. The plan supplements the Initial ECRA Notice Submission provided to the New Jersey Department of Environmental Protection (DEP) on February 6, 1984 and makes reference to information and maps contained within the Initial ECRA Notice Submission.

2. OVERALL EVALUATION MEASUREMENT PLAN

Consideration has been given to sampling of surface and subsurface soil, ground water, air, surface water, and stream bottom sediments. The following sections describe the overall evaluation of these media and the rationale for the sampling program.

2.1 Surface and Subsurface Soils

Areas of environmental evaluation include those areas where AT&T operations could possibly have resulted in materials contaminating surface and subsurface soils. These include:

a. areas adjacent to active and inactive underground fuel storage tanks and main fuel transfer (loading/unloading) points;
b. present and past outside drum storage areas other than RCRA permitted facilities;
c. areas of exposed disturbed soils containing demolition rubble or other materials, and
d. areas adjacent to inactive, underground chemical storage tanks.

A sampling program designed to address these areas is defined in Section 3. Environmental impact from activities by previous owners will be ascertained by this sampling program.

A substantial portion of the property consists of areas not requiring environmental evaluation. Specifically:

a. There is no need to sample in areas under roof. Most of the process operations are dry, and there are very few liquid chemicals used. The roofed areas prevent precipitation access to chemicals stored inside and there is no opportunity for spill movement out of a building. All roofed areas have a solid, continuous, inpermeable concrete foundation. While the construction details vary, the construction is sufficient to prevent escape of liquids spilled internally. (See Appendix B for construction details.) There are no floor drains. Consequently, internal spills are cleaned up immediately and captured with dry sorbent material for proper disposal.

b. There is no reason to sample under paved parking areas. The site was developed with the buildings and parking areas as shown on Drawing 8452-120579-C (see back pocket). AT&T has never conducted any industrial operation, storage of chemicals, or disposal operation on or under the parking areas. Thus, there is no reason to believe the soils underlying the parking area contain anything other than natural material.

2.2 Ground Water

No ground-water sampling or monitoring is proposed. Due to natural salt content, the upper aquifer under the site is not useable as a water supply. The use of chemicals and the storage and treatment of wastes have been confined in large measure to areas under roof or in tanks specially constructed for storage and treatment. Consequently, there has been little opportunity for hazardous substances to get into the ground water.

In addition, the shallow aquifer under the property is saline, being virtually continuous with the Passaic River, a tidal estuary. The shallow aquifer is not useable for water supply purposes or similar uses which require high quality water. Given this natural condition of the ground water, there is little purpose in sampling for potential contamination from hazardous substances even if contributed by the site.

2.3 Air

No air sampling will be conducted at the site. There are no present or potential continuous sources of contaminated air emissions resulting from past activities at the site.

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2.4 Surface Water

No surface water sampling will be conducted at the site. There are no surface water bodies present on the site from which to take samples. Precipitation either drains directly to the river or is captured in numerous storm drains which lead to the river.

The site is adjacent to the Passaic River; however, sampling from the river is of no value. There are no known or suspected sources of river contamination which will continue after site operations have been discontinued. River conditions are transient and river water quality reflects all the many users of the river, not just activities of AT&T.

2.5 Stream Bottom Sediments

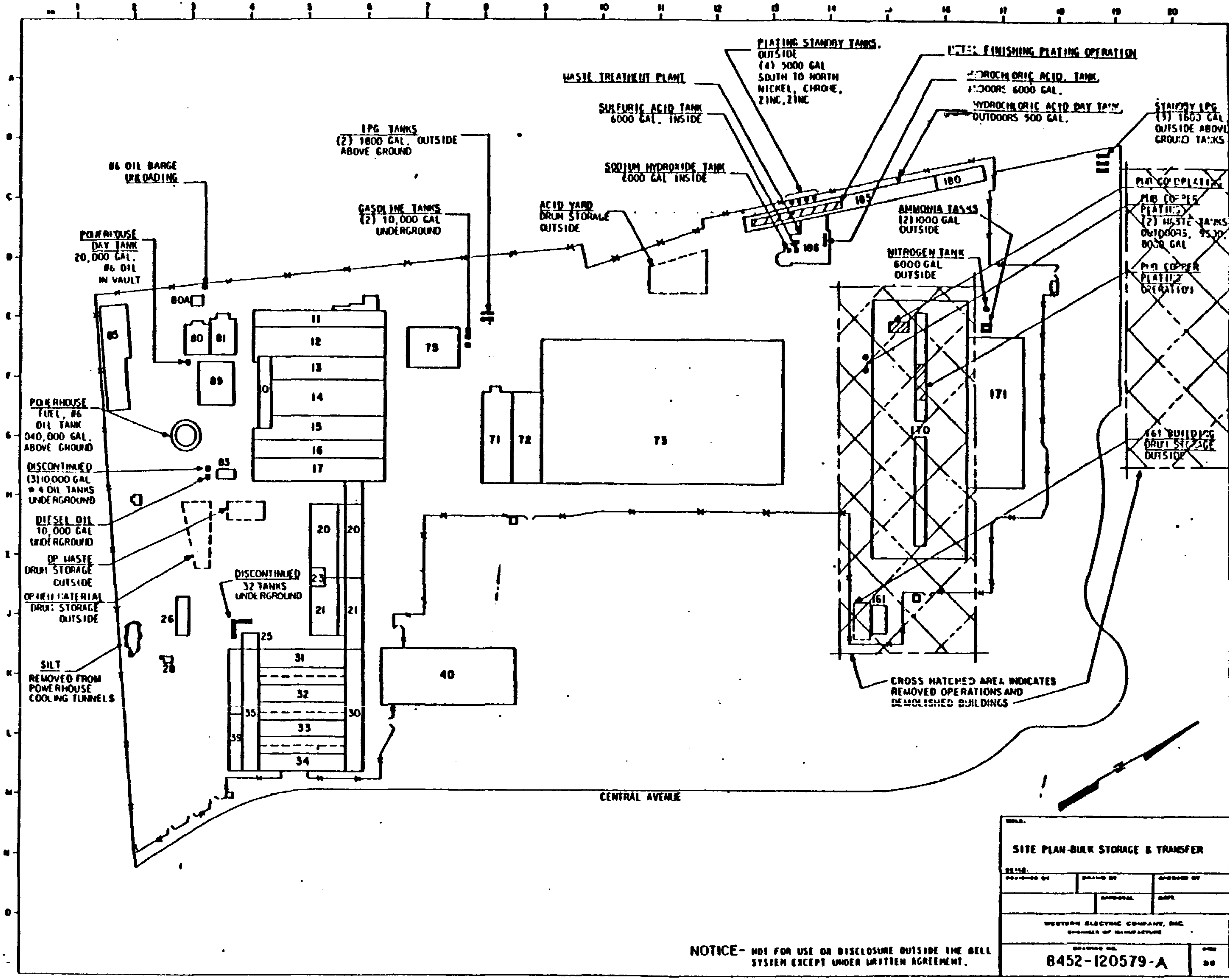
No stream bottom sediment sampling will be conducted at the site. The reasons for not sampling are the same as those stated for surface water.

3. SURFACE AND SUBSURFACE SOIL SAMPLING PLAN

3.1 Sampling Locations

Drawing 8452-120579-A shows the locations of bulk storage and transfer operations, the principal points to be evaluated. Section 4 of the Initial Submission contains a description of all the major storage facilities. Drawing 8452-120579-C (see back pocket) shows the same information as that contained on 8452-120579-A and, in addition, shows the specific locations where surface and subsurface soil samples will be taken. Samples from these locations will be taken one time only, unless the results of the analysis provide a positive indication of soil contamination. If this occurs, additional sampling and analysis may be conducted to better define the situation. Table 3-1 indicates the parameters which will be analyzed and the reason for sampling at each location. Table 3-2 provides a list of the major storage areas (identical to Section 4 of the Initial Submittal) and how these are addressed in the sampling plan.

Drawing 8452-120579-B shows the location and contents of five sets of transformers on the site. Three of these sets of transformers are located inside buildings on solid impermeable, concrete foundations in fully diked areas. There is no opportunity for soil contamination from these facilities and no sampling is proposed at these locations. Two sets of transformers are located outside. The transformers at Grid Index E-2 contain mineral oil only and do not represent a potential source of soil contamination. Consequently no sampling is necessary at this location. The set of transformers at Grid Index K-5 contain Pyranol and Abestol and are outdoors on a solid concrete pad with a step dike. There has been no record of spills, leaks, fires or other mishaps relating to the release of PCBs at this location. Given the lack of spill history and proper containment, there is no need to conduct sampling at this location.



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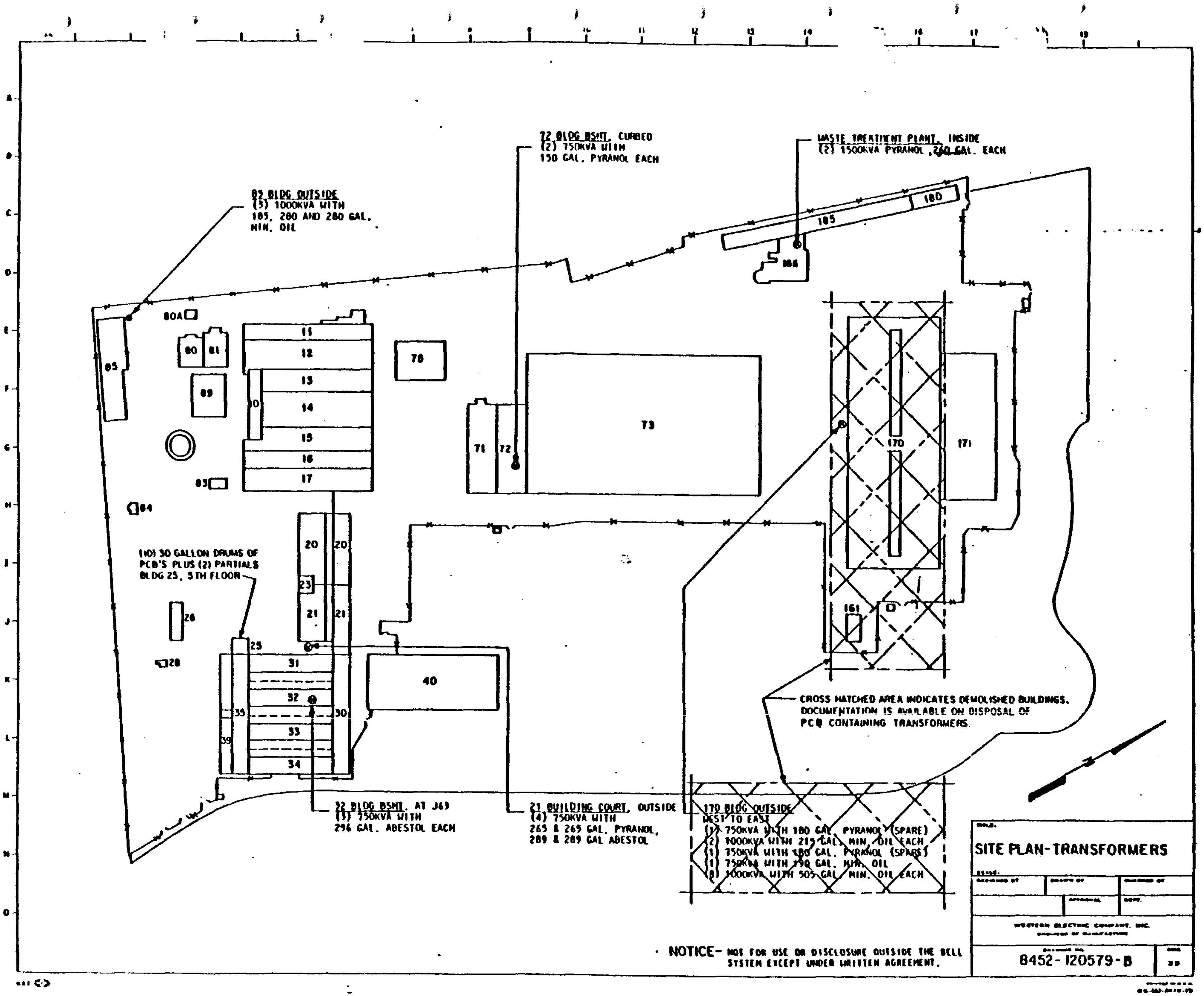

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3.2 Sampling Methodology

Surface soil samples will be collected using a shovel or trowel according to ERT Standard Operating Procedure (SOP) 7110 (see Appendix A).

To obtain subsurface samples, a truck mounted hollow stem auger will be used to advance a borehole at the locations shown on Drawing 8452-120579-C. A split spoon sampler will be used to take one sample as deep as possible within the unsaturated zone but not in the saturated zone. Additional samples will be taken where there is significant odor, discoloration, or other reason to suspect soil contamination. Other sampling details are provided in ERT SOP 7115 (Appendix A).

Collected samples will be placed in clean, amber glass bottles of sufficient size to contain enough sample to complete the appropriate analysis. Where split samples are required, a large soil sample will be placed into a clean stainless steel pail. The soil in the pail will be thoroughly mixed by stirring with a clean, metal trowel. The duplicate samples will then be taken as subsamples from the homogeneous mixture in the pail. Each sample bottle will be labeled, packaged and shipped as described in ERT SOP 7510 (Appendix A).

3.3 Analysis Methodology

Table 3-1 shows the analyses to be conducted at each location. Except for several selected locations on site, there is no indication of what specific chemicals to look for in the soil. For this reason, several relatively non-specific parameters have been selected which can be used to provide a general indication of significant soil contamination. These parameters are explained below.

3.3.1 pH

The pH is a simple measurement which provides a general indication of soil conditions. All soil samples will be subjected to pH analysis in the laboratory using a pH meter. The sample is

TABLE 3-1

ECRA SOIL SAMPLING PROGRAM

KEARNY WORKS, AT&T TECHNOLOGIES, INC.

(Formerly Western Electric)

	Sampling Point No.	Sampling Point Grid Index	Samples to be Taken	Analysis to be Conducted[a]	Rationale for Sampling
1. Undisturbed background	13 14	L-7 L-10	Surface & Subsurface	pH Headspace O&G TOC PPM	Area on site never subject to development or industrial/manufacturing operations. Samples from this area will provide representative background against which to compare other results.
2. Underground fuel storage and main transfer point	7 9 10 15	H-3 F-3 E-3 F-8	Surface & Subsurface	pH Headspace O&G	Underground fuel storage tanks may have leaked. Periodic spills from fuel transfer may have occurred.
3. Present and past known drum storage areas which are not contained and not RCRA facilities	4 5 6 8 16 17	I-3 I-3 H-3 F-2 D-11 D-11	Surface & Subsurface	pH Headspace TOC PPM	Small drum leaks and spills during loading/unloading may have occurred.
4. Areas of exposed, disturbed soils containing demolition rubble or other materials	1 2 3	L-2 J-2 I-2	Surface & Subsurface	pH Headspace TOC PPM	The source of demolition rubble contained in this area is not known. Point 2 is location of silt from powerhouse tunnels.
	19 to 31	J-14 to F-16	Surface & Subsurface	pH Headspace TOC PPM	This is the location of former Building 170. Facility contained various plating operations and drum storage. Sampling grid is designed to determine presence of any hazardous residuals.
	32 33 34	See note at N-6	Surface & Subsurface	pH Headspace TOC PPM	Source and type of materials in this area are not known.

priority pollutant metals.

TABLE 3-1 (continued)

	Sampling Point No.	Sampling Point Grid Index	Samples to be Taken	Analysis to be Conducted[a]	Rationale for Sampling
5. Underground fuel/chemical storage tanks	11 12	J-4 J-4	Subsurface	pH Headspace TOC O&G	Small underground tanks contained engine oil, lubricating oil, hydraulic oil, alcohol, toluol, varsol, and kerosene in varying amounts (see Tank Note on Figure 3-1).
6. Liquid chemical transfer	18	D-13	Surface	pH Headspace	Spills from transfer of pure chemicals (NaOH, H_2SO_4, and HCl) may have occurred.

[a] Headspace analysis will utilize an HNU photoionization detector.

O&G = Oil and Grease

TOC = Total Organic Carbon

PPM = Priority Pollutant Metals

See Section 3.3 of text for more details.

TABLE 3-2

SAMPLING PLAN FOR STORAGE FACILITIES

KEARNY WORKS

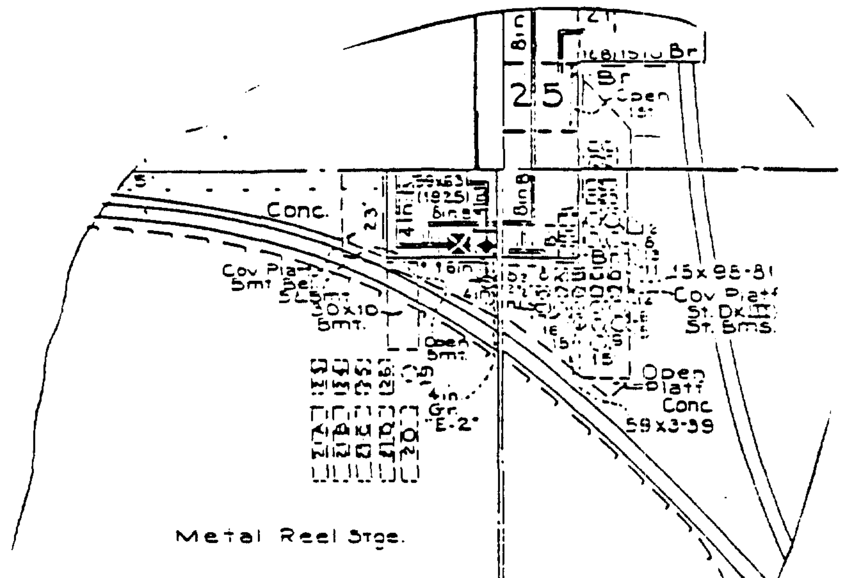
AT&T TECHNOLOGIES, INC.

(Formerly Western Electric)

Item	Description	Grid Index	Sample ID No.	Sample Grid Index	Comments
1	Building 25, 32 adjacent underground tanks (see Figure 3-1 for more detail)	J-4	11 & 12	J-4	--
2	Silt from Powerhouse tunnels	J-2	2	J-2	--
3	Outdoor storage yard	I-3	4, 5, 6	I-3	Sample around periphery of storage yard.
4	Four, 10,000 gal. inactive fuel tanks	H-3	7	H-3	--
5	Powerhouse oil standby tank	G-3	None	None	No opportunity for soil contamination. Tank on concrete slab fully surrounded by steel dike.
6	Building 85 basement	E-1	None	None	No opportunity for soil contamination.
7	20,000 gal. oil day tank	F-3	None	None	No opportunity for soil contamination. Tank is fully contained in underground vault.
8	Two 10,000 gal. underground gasoline tanks	E-7	15	E-8	--
9	Two 1,800 gal. LPG above ground tanks	E-8	None	None	Spills will volatilize. No opportunity for soil contamination.
10	Drum storage outside	E-12	16, 17	E-11	--
11	Above ground tanks in Building 185	C-14	None	None	Tanks are above ground and fully contained. No opportunity for soil contamination.

TABLE 3-2 (continued)

Item	Description	Grid Index	Sample ID No.	Sample Grid Index	Comments
12	Demolished Buildings 170 and 161	I-15	19 thru 31	E-16 to J-15	--
13	Two above ground tanks of ammonia and nitrogen	E-17	None	None	Spills will volatilize. No opportunity for soil contamination.
14	Heat sink Building 171	E-17	None	None	Operations are under roof. No opportunity for soil contamination.
15	Air conditioning circulating water	E-3	None	None	Closed piping system and make-up is under roof. No opportunity for soil contamination.
16	Former coal pile storage area	F-H-2-3	8	F-2	Area was also used for short time for outside drum storage.



TANK NOTE

TANK NO	CAPACITY	CONTENTS
1.	2016 Gal	Engine Oil
2.	2015 Gal.	
3	1516 Gal	Lubricating Oil
4	2016 Gal	Lubricating Oil
5.	817 Gal	
6.	817 Gal.	
7-A-7-D.	4036 Gal.	
8.	552 Gal	
9	817 Gal	
10.	1120 Gal	
11	552 Gal	
12.	552 Gal	Hydraulic Oil
13	552 Gal	
14.	817 Gal	
15.	804 Gal	
16.	817 Gal	
17	817 Gal	
18	817 Gal.	
19	327 Gal	
20	4036 Gal	
21-A	4036 Gal.	Alcohol
21-B,22+D.	4036 Gal	Toluol
21-C.	4036 Gal.	Alcohol
22	536 Gal	
23	2000 Gal	Varsol
24	2000 Gal	
25	1536 Gal	Kerosene
26	1536 Gal.	

Figure 3-1 Location and former contents of underground storage tanks in vicinity of Building 25

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prepared for measurement by the addition of CO_2 free water at a ratio of 10 grams soil per 100 ml CO_2 free water. The pH of the resultant water soil mix is measured according to EPA Method 1501 as referenced in "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1979. .

3.3.2 Headspace Analysis

Headspace analysis will be conducted on all soil samples in the field as a screening technique, using an HNU Model PI 101 Photoionization Analyzer. In the headspace analysis a clean, shallow wide-mouth glass container is half-filled with the soil sample. The top of the container is sealed with aluminum foil and the sample shaken vigorously. After a 5 minute equilibration period, the HNU probe is inserted through the aluminum foil top into the headspace over the soil sample and the instrument reading is taken. The instrument measures non-specific total volatile organic constituents and provides a general indication of contamination from those constituents. ERT SOP 7315 (Appendix A) provides details on the operation/calibration of the photoionization instrument. Samples which exhibit high instrument readings will be sent to the laboratory for a VOC scan to determine specific constituents.

3.3.3 Oil & Grease

Oil and grease (O&G) determination will be conducted on samples taken from the background area and areas of underground fuel storage tanks. The determination is not appropriate for light hydrocarbons found in gasoline, but is suitable for fuel oils. This analysis in combination with the headspace analysis will provide a good indication of contamination of soils from fuels and fuel oils. CRL #739 as specified in "Chemistry Laboratory Manual for Bottom Sediments and Elutriate Testing", EPA-905/4-79-014, April 1979 will be used for oil and grease analysis.

3.3.4 Total Organic Carbon (TOC)

TOC analyses will be conducted as a non-specific indicator of all organics (volatile and non-volatile) at background areas, drum storage areas, areas of exposed rubble, and at underground fuel/chemical storage tanks. Analysis will be conducted using Method 9060 in the EPA Manual SW-846 entitled: "Test Methods for Evaluating Solid Waste".

3.3.5 Priority Pollutant Metals (PPM)

The priority pollutant metals -- Be, Cd, Cr, Cu, Pb, Ni, Ag, Th, Zn, Sb, As, Se, and Hg - will be analyzed by Induced Coupling Argon Plasma (ICP) methodology as described in Method 6010 of the EPA Manual SW-846. The diverse range of plating operations which have taken place over time may have involved a variety of different metals. A scan for the principal metals of potential concern by ICP is a cost-effective method for quickly determining whether there are unusually high concentrations of these metals in the soil. Prority pollutant metals are being analyzed on samples taken from drum storage areas and areas of exposed, disturbed soils containing demolition rubble.

3.3.6 Laboratory Conducting Analyses

Samples will be collected by personnel of Environmental Research & Technology, Inc. Concord, MA. The analysis for pH and oil and grease will be conducted by the ERT Concord laboratory. The analyses for TOC and ICP will be conducted by GCA Corporation of Bedford, MA.

3.3.7 Quality Assurance Plan

Sample Preservation: Samples will be preserved according to applicable sections of EPA-600/4-82-029.

Sample Packaging & Shipment: Refer to ERT SOP 7510 (Appendix A).

Equipment Cleaning & Decontamination: In general, the provisions of ERT SOP 7600 will be followed. The nature of the samples anticipated to be encountered and the nature of the analyses conducted indicate that sampling equipment will only require normal mechanical cleaning and will not require specialized decontamination procedures.

Blanks & Duplicates: Duplicate soil samples will be taken at the rate of one duplicate for every 15 samples collected. Normal laboratory QA/QC protocol involving reference blanks, duplicate analyses, spiked samples, and similar methods will be used as specific to the referenced methods.

Chain-of-Custody: Refer to ERT SOP 7510.

3.3.8 Arrangements to Split Samples With DEP

Prior to conducting the field program, arrangements will be made with DEP to take and ship whatever split samples DEP may require.

APPENDIX B

CONSTRUCTION DETAILS FOR FOUNDATIONS AT THE KEARNY WORKS

CONSTRUCTION DETAILS FOR FOUNDATIONS AT THE KEARNY WORKS

Those buildings which have a basement (Buildings #10 through 17, 20, 21, 23, 25, 30 through 35, 39, 40, 71, 72, 80, 81 and 85) were constructed in the following manner to effect an impervious barrier at and below grade. After each excavation was made, it was lined, bottom and sides, with a "mud" concrete mixture. Then a copper membrane, seam soldered and coated with pitch on both sides, was placed against the excavation bottom and sides, forming a water proof barrier. After that, the basement walls and floor were constructed of poured reinforced concrete.

With two exceptions, those buildings which have no basement (Buildings #73, 75, 83, 89, 171 and 186) had an impervious surface developed this way. The reinforced poured concrete floor slab had either an epoxy or similar impervious surface topping.

The two exceptions are; The Lumber Storage Shed (Building 26) and the Plating, Moulding and Painting Shops complex (Buildings 180 and 185).

The Lumber Storage Shed (Building 26) is approximately 130' by 40'. It has a sub floor of 1 1/2' concrete at about 11' below grade. The entire perimeter is concrete walled to grade and cinder filled, with a 6" concrete floor at grade.

The Building 180, 185 complex was already constructed when Western Electric began manufacturing operations in 1925. When the plating consolidation occurred around 1973, half of the Building 185 floor was removed to permit piling for the mezzaine section to be added. The new floor was poured over the half of the floor remaining as well as the ripped out portion. An impervious surface of epoxy topping was included.

No changes were made to the Building 180 floor. However, it has never been used for manufacturing at the grade level. It's been used for storage of construction material such as pipes, valves, etc. It also houses a steam reducing station, and for a period of time there was about a 100 square foot cage assigned for hand painting of signs.

Reference: Correspondence dated April 12, 1984 from Chris Tranchetti, Senior Environmental Engineer, AT&T Technologies, Inc., to Willam A. Duvel, Jr., ERT.

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Kearny Fire Department document (not dated)

- Provides list of raw materials.

CHEMICALS USED IN METAL FINISHING AT W.E. - KEARNY

Chromium Plating

Chromium Trioxide
Sulfuric Acid
Mist Suppresant

Copper Plating

Copper Cyanide
Sodium Cyanide
Sodium Hydroxide
Rochelle Salts
Sodium Carbonate

Nickel Plating

Nickel Sulfate
Nickel Chloride
Boric Acid
Sodium Chloride

Solder Plating

Tin Fluoborate
Lead Fluoborate
Fluoboric Acid
Boric Acid
Peptone

Zinc Plating

Zinc Cyanide
Sodium Cyanide
Sodium Hydroxide
Sodium Polysulfide
Brightener

Gold Plating

Potassium Gold Cyanide
Potassium Cyanide
Potassium Hydroxide
Dibasic Ammonium Citrate
Cobalt hardened
proprietary solutions.

Silver Plating

Silver Cyanide
Potassium Cyanide

Passivating

Sodium Dichromate
Sulfuric Acid
Nitric Acid

Pickling Acids

Hydrochloric
Nitric
Sulfuric

Cleaners

Proprietary Compounds
containing 85-95% ~~caustic~~ caustic

Phosphating

Proprietary compound
containing phosphoric
acid.

A. V. SIAWELESKI - 53710

10

Interstate Sanitation Commission Compliance Monitoring Report, October 1982.

- Provides information on the plating operation, waste water treatment plant and facility outfalls.

COMPLIANCE MONITORING REPORT

Western Electric Co., Inc.
100 Central Avenue
Kearny, New Jersey 07032

NPDES Permit No: NJ0020443

Date of Preliminary Inspection:

February 3, 1982

Date of Effluent Survey:

April 28-29, 1982

Participating Personnel:

Peter Sattler, Sr. Environmental Planner
Henry Anusiak, Environmental Specialist
William McCormack, Sanitarian
Michael Hornsby, Sanitarian

Report Prepared under the Direction of:

Alan I. Mytelka, Ph.D.
Assistant Director &
Assistant Chief Engineer

Interstate Sanitation Commission

October 1982

SUMMARY

Objective

This investigation was conducted to determine whether the permittee is in compliance with the requirements and limitations of NPDES permit No. NJ0020443 issued August 1, 1979.

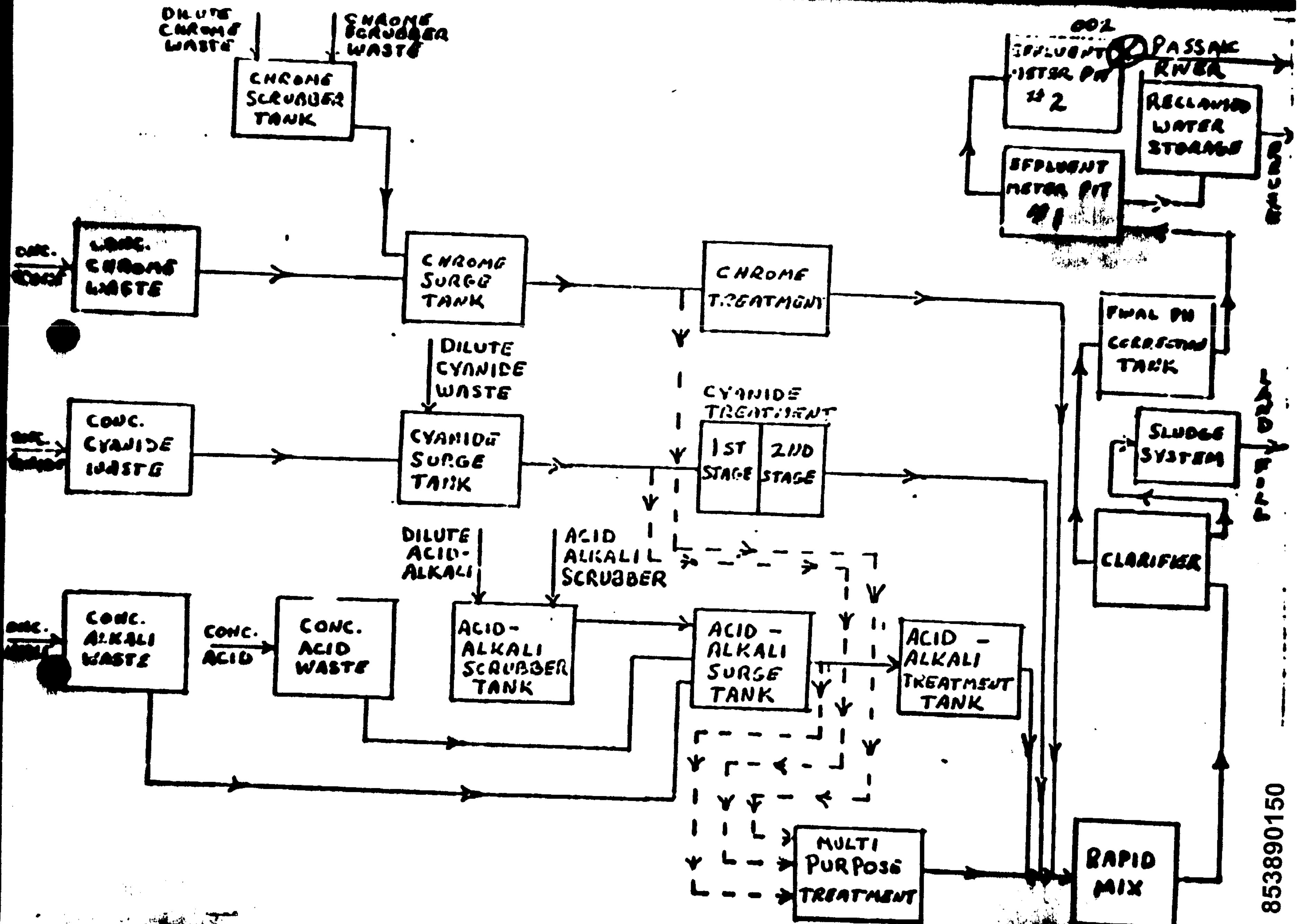
This report relates to compliance with relevant NPDES permit terms. It does not relate to compliance or lack thereof with any other water quality limitations, standards or requirements which may be applicable.

Findings and Conclusions

Based upon a February 3, 1982 facility and plant records inspection and an April 28-29, 1982 effluent sampling survey, the Western Electric Co., Inc. is in compliance with the terms and conditions of NPDES Permit No. NJ0020443.

Recommendations

Since the permittee is in compliance with the terms and conditions of the permit, no action is necessary.


DILUTE CHROME WASTE
CHROME SCRUBBER WASTE
CHROME SCRUBBER TANK
CONC. CHROME WASTE
CHROME SURGE TANK
CHROME TREATMENT
DILUTE CYANIDE WASTE
CONC. CYANIDE WASTE
CYANIDE SURGE TANK
CYANIDE TREATMENT
1ST STAGE
2ND STAGE
DILUTE ACID-ALKALI
ACID ALKALI SCRUBBER
CONC. ALKALI WASTE
CONC. ACID
CONC. ACID WASTE
ACID-ALKALI SCRUBBER TANK
ACID - ALKALI SURGE TANK
ACID - ALKALI TREATMENT TANK
MULTI PURPOSE TREATMENT
RAPID MIX
CLARIFIER
SLUDGE SYSTEM
LANDFILL
FINAL PH CORRECTION TANK
EFFLUENT METER PIT #1
EFFLUENT METER PIT #2
001
PASSAIC RIVER
RECLAIMED WATER STORAGE

853890150

I. FACILITY

Products

Telephone Equipment

Current Production Rate

Variable with Equipment produced.

Number of Employees

5000

Current Production Schedule

288 days/year - 16 hours/day, 8 hours/day treatment plant

Age of Facility

57 years; treatment plant 7 years

Discharge and Receiving Waterway

Six outfalls discharge to the Passaic River:

Point No. 001 - Condenser cooling water discharge (6' x 4')
Point No. 002 - Discharge from Plating waste treatment plant (14" Dia.)
Point No. 003 - Storm drains & Groundwater discharge (36" Dia.)
Point No. 004 - Storm drains & Groundwater discharge (48" Dia.)
Point No. 005 - Storm drains & Groundwater discharge (48" Dia.)
Point No. 006 - Storm drains & Groundwater discharge (48" Dia.)

II. PROCESS

The only processes involved are cleaning plating and metal finishing of telephone equipment produced at this facility.

III. WATER USES AND QUANTITIES

Water Uses	Quantity	Source of Water
Condenser Cooling	2-6 MGD	Passaic River
Process	0.140 MGD	City water
Cooling	0.050 MGD	City water
Boiler feed	0.030 MGD	City water
Other	0.280 MGD	City water

A total of 500,000 gallons per day of city water is used on an average.

Sanitary waste is discharged to the city sewer system.

I.S.C. COMPLIANCE INVESTIGATION

FACILITY: Western Electric Co., Inc.

I.S.C. INVESTIGATION NO.: 12255

ADDRESS: 100 Central Avenue
Kearny, New Jersey

DATE OF INVESTIGATION: 4/28-29/82

DISCHARGE WATERWAY: Passaic River

NPDES PERMIT NO.: NJ0020443

SAMPLING POINT NO.: 002

PARAMETER	PERMIT LIMITATION DAILY MAX (GROSS)	VALUE DETERMINED FROM INVESTIGATION
Flow (MGD)	1.1	0.1 (1)
Temperature (degrees C)	30	16.1 (2)
TSS (mg/l)	10	8.0
Oil & Grease (mg/l)	10	0.0
Chromium-Total (mg/l)	0.25	<0.02
Chromium-Hexavalent (mg/l)	0.05	--
Copper-Total (mg/l)	1.0	0.09
Copper-Soluble (mg/l)	0.2	0.08
Lead-Total (mg/l)	1.0	<0.10
Lead-Soluble	0.05	<0.10
Nickel-Total (mg/l)	2.0	<0.10
Nickel-Soluble (mg/l)	1.0	<0.10
Iron-Total (mg/l)	1.5	<0.05
Iron-Soluble (mg/l)	0.5	<0.05
Cyanide-Oxidizable (mg/l)	0.03	<0.01
pH (S.U.)	min. 6.0 max. 9.0	min. 8.1 max. 8.3 (3)
Floating Solids	Trace	None visible
Visible Foam	Trace	None visible

1) Flow on day of sampling
2) Maximum value of 7 individual grab samples
3) Minimum and maximum values of 7 individual grab samples

853890154

I.S.C. COMPLIANCE INVESTIGATION

FACILITY: Western Electric Co., Inc. | I.S.C. INVESTIGATION NO.: 12255

ADDRESS: 100 Central Avenue
Kearny, New Jersey

DATE OF INVESTIGATION: 4/28-29/82

DISCHARGE WATERWAY: Passaic River

NPDES PERMIT NO.: NJ0020443

SAMPLING POINT NO.: 003

PARAMETER	PERMIT LIMITATION DAILY MAX (GROSS)	VALUE DETERMINED FROM INVESTIGATION
Oil & Grease (mg/l)	15	0.1
COD (mg/l)	100	4.0
TSS (mg/l)	50	8.0
pH (S.U.)	min. 6.0 max. 9.0	min. 6.7 max. 7.6 (1)
Floating Solids	Trace	None visible
Visible Foam	Trace	None visible

(1) Minimum and maximum values of 24 individual grab samples.

853890155

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EPA NPDES Permit Renewal Application.

- Identifies outfalls to the Passaic River and potential discharge mechanisms.

EPA

GENERAL INFORMATION

NPDES Permit ... Application

I. EPA I.D. NUMBER

III. FACILITY NAME

FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X		
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)			X
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)			
D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)			
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)			
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)			
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)			

III. NAME OF FACILITY

1 SKIP WESTERN ELECTRIC CO INC

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title) | B. PHONE (area code & no.)

CHIKOWSKI JOE DEPARTMENT CHIEF | [illegible] | 465 | 453[illegible]

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 100 CENTRAL AVENUE

B. CITY OR TOWN | C. STATE | D. ZIP CODE

4 KEARNY | NJ | 07032

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 100 CENTRAL AVENUE

B. COUNTY NAME

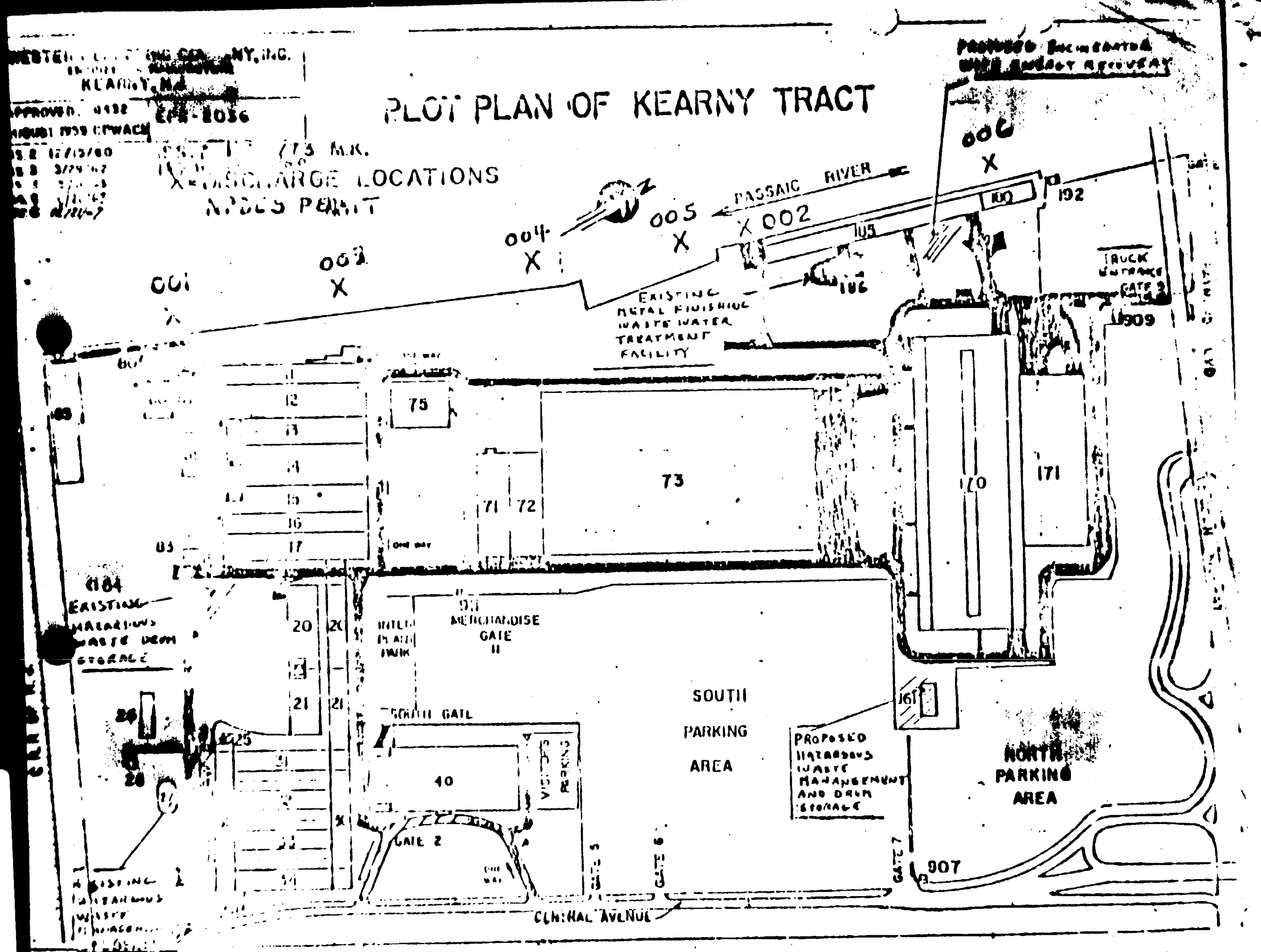
HUDSON

C. CITY OR TOWN | D. STATE | E. ZIP CODE | F. COUNTY CODE

6 [illegible]

EPA

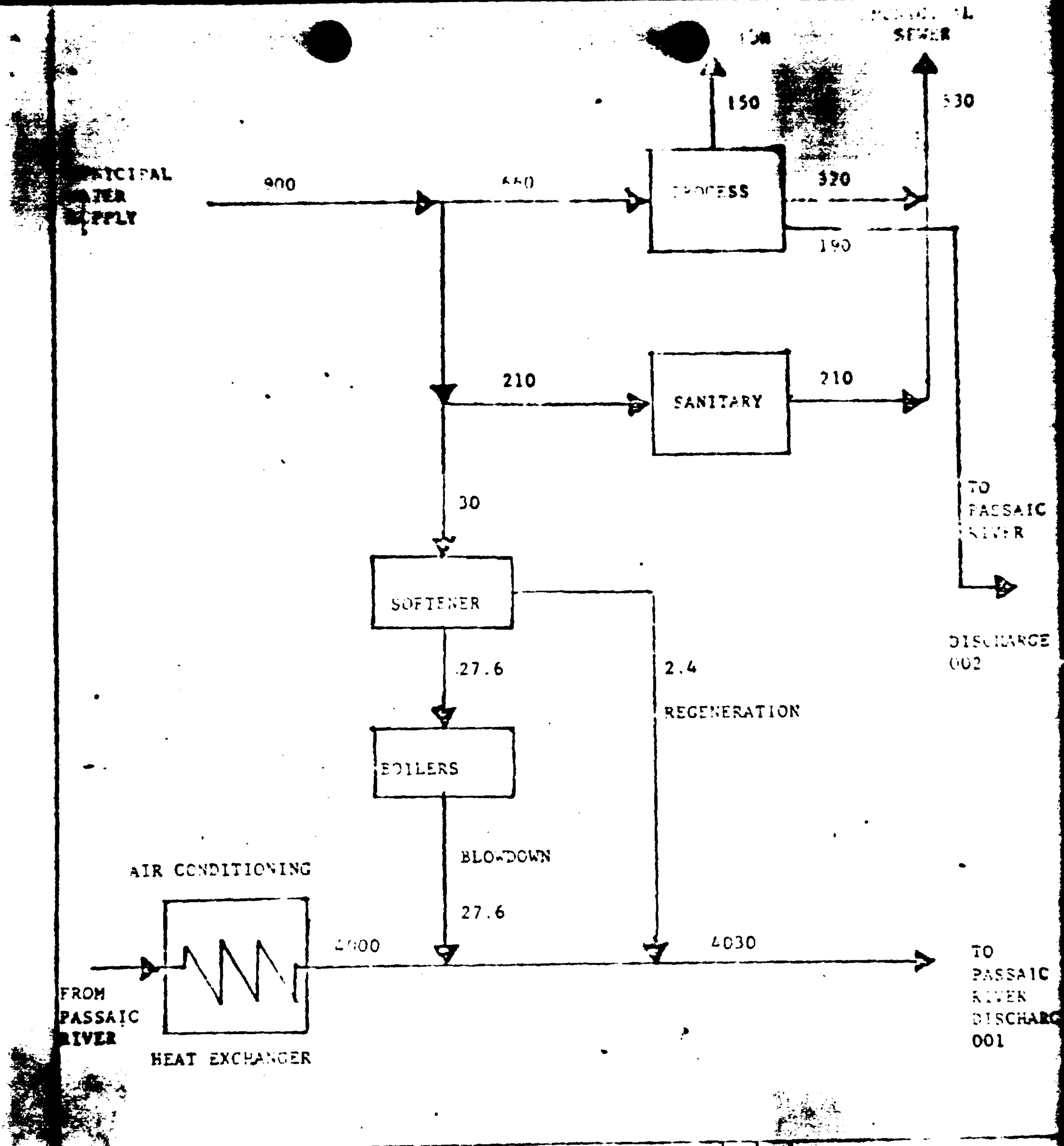
853890158


PLOT PLAN OF KEARNY TRACT
KEARNY, N.J.
DISCHARGE LOCATIONS
NPDES PERMIT
PASSAIC RIVER
001
003
004
005
002
006
PROPOSED INCINERATOR
EXISTING METAL FINISHING WASTE WATER TREATMENT FACILITY
TRUCK ENTRANCE GATE 9
EXISTING HAZARDOUS WASTE DRUM STORAGE
PROPOSED HAZARDOUS WASTE MANAGEMENT AND DRUM STORAGE
EXISTING HAZARDOUS WASTE
MERCHANDISE GATE
SOUTH GATE
GATE 2
GATE 5
GATE 6
GATE 7
SOUTH PARKING AREA
NORTH PARKING AREA
CENTRAL AVENUE
73
75
170
171
40
907
909
192

853890159

[illegible]	40	43	[illegible]	74	07	[illegible]		
[illegible]	40	43	14	74	06	53	"	"
003	40	43	42	74	06	56	"	"
004	40	43	[illegible]	74	06	57	"	"
[illegible]	40	43	42	74	06	56	"	"
[illegible]	40	43	52	74	06	53	"	"

	Power House			
001	River Water to Cool A/C Sys.	4,[illegible] GPD	None	
	Boiler Blowdown Water	27,[illegible] GPD	"	
	Regeneration of Water Softeners	2,400 GPD	"	
002	Wastewater Treatment Plant (Design Capacity of 1.1 MGD)	390,000 GPD	Physical & Chemical with Discharge to Passaic River and Sludge to Landfill	1-C 2-B 2-C 2-D 2-K 2-L 4-A 5-Q
003	Misc. Sources of Clean Water (Parking Lots, Roof Drains, Fountains, Fire Mains and A/C System)	5,[illegible] GPD	None	
004	Misc. Sources of Clean Water (Parking Lots and Roof Drains, Fountains, Fire Mains)	NIL	None	
005	Misc. Sources of Clean Water (Parking Lots and Roof Drains, Fountains, Fire Mains)	NIL	None	
006	Misc. Sources of Clean Water (Parking Lots and Roof Drains, Fountains, Fire Mains)	NIL	None	



SCHEMATIC OF WATER FLOW
(THOUSANDS OF GALLONS PER DAY)

WESTERN ELECTRIC CO., INC.

KEARNY, N.J.

DATE: 9/8/78
PAGE 1 of 1

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Excerpts from the Amended Environmental Clean-up Plan, Kearny Works AT&T Technologies, Inc., June 1985. Prepared by Dr. William A. Duvel Jr. P.E.

- Establishes existence of soil, sediment and groundwater contamination. Also establishes that historical spills of hazardous substances occurred.

Document D367-200
June 1985

Prepared for
AT&T Technologies, Inc.
Kearny, NJ

Amended Environmental Clean-up Plan, Kearny Works AT&T Technologies, Inc.

(Formerly Western Electric Company, Inc.)

Prepared by
Dr. William A. Duvel, Jr., P.E.
R. John Finn
John M. Lambie

ERT
ENVIRONMENTAL RESEARCH & TECHNOLOGY, INC.
ATLANTA · CHICAGO · CONCORD, MA · FORT COLLINS, CO
HOUSTON · LOS ANGELES · PITTSBURGH · WASHINGTON, DC

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2050n

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

1.1 Amended Environmental Clean-Up Plan

This Amended Environmental Clean-up Plan has been developed to meet the requirements of N.J.A.C. 7:1-3.12 with respect to cessation of activities at the Kearny Works of AT&T Technologies, Inc. (formerly Western Electric Company, Inc.), 100 Central Avenue, Kearny, New Jersey. This Amended Environmental Clean-up Plan supercedes the Environmental Clean-up Plan (ERT Document No. D367) submitted in October 1984. This Plan consists of the soil and ground-water sampling and analyses data and the proposed clean-up actions for both those media and all other plant operations. The Amended Clean-up Plan presents and interprets the results of the Environmental Evaluation Measurement Plan (ERT Documents No. D231 and D231a), supplemental ECRA Soil Sampling Plan (ERT Document No. D367B), Site Hydrogeologic Conditions Kearny Works (prepared by Dan Raviv Associates and submitted as Appendix E to this document), and the Plating Shop Closure Plan (ERT Document D367-100B included as Appendix D) prepared in accordance with N.J.A.C. 7:1-3.7 and approved by the New Jersey Department of Environmental Protection (NJDEP) pursuant to N.J.A.C. 7:1-3.9. This document also presents the recommended plan for the most practicable method of clean-up of the site, including time schedules for implementation and cost estimates for each item of clean-up. The Amended Clean-up Plan is presented in two volumes. Volume I contains the main text and all appendices except for Appendix E. Appendix E is bound separately.

1.2 Background

A series of documents have been provided to the NJDEP over a period of time in order to meet the objectives of an ECRA clean-up. The following summarizes the events and activities leading to the present document.

- February 6, 1984. AT&T provides Initial ECRA Notification to NJDEP.
- March 5, 1984. NJDEP requests additional information.
- May 24, 1984. AT&T provides Environmental Evaluation Measurement Plan (ERT Document No. D231) to NJDEP.
- June 19, 1984. NJDEP requests revisions in sampling plan and analytical methodologies stipulated in Environmental Evaluation Measurement Plan.
- June 28, 1984. AT&T responds to comments noted in June 19 correspondence from NJDEP.
- July 13, 1984. AT&T provides Appendix B to Environmental Evaluation Measurement Plan (ERT Document No. 231a) confirming and elaborating on points outlined in June 28 correspondence.
- July 16-20, 1984. AT&T initiates first round of field work for collection of soil samples and tank testing.
- August 28, 1984. Completion of tank testing.
- October 4-10, 1984. AT&T initiates second round of field work for collection of additional soil samples.
- October 22, 1984. AT&T submits Environmental Clean-Up Plan (ERT Document No. D367) to NJDEP based on first round of samples.
- December 6, 1984. AT&T meets with NJDEP to review Environmental Clean-up Plan. NJDEP introduces soil clean-up criteria and notes need for information on uninvestigated areas. AT&T provides detailed plating shop clean-up plan (ERT Document No. D367-100B).
- December 12, 1984. AT&T initiates third round of field work to obtain samples agreed to at December 6 meeting.
- December 20, 1984. AT&T meets with NJDEP to review results of analyses. NJDEP requests fourth round of soil sampling plus ground-water sampling.
- January 14, 1985. NJDEP provides partial approval of clean-up plan subject to results of fourth round of sampling. Also indicates ground-water monitoring requirement.

- January 29, 1985. AT&T provides Supplemental Soil Sampling Plan (ERT Document D367B) to NJDEP.
- February 4, 1985. AT&T meets with NJDEP to review Supplemental Soil Sampling plan. NJDEP provides verbal approval.
- February 6, 1985. AT&T implements supplemental soil sampling plan by initiating field work on fourth round of sampling.
- February 8, 1985. AT&T meets with NJDEP in Kearny for field evaluation of soil sampling and ground-water monitoring program (DRAI submittal dated February 8, 1985). Ground-water monitoring program verbally approved by NJDEP.
- February 11, 1985. AT&T initiates ground-water monitoring program with NJDEP on-site.
- February 25, 1985. NJDEP provides written approval of Plating Shop Clean-up subject to several modifications.
- March 11, 1985. NJDEP provides written approval of ground-water monitoring program subject to several modifications.
- March 14, 1985. NJDEP provides written approval of Supplemental Soil Sampling Plan.
- March 18, 1985. AT&T provides analytical results of Supplemental Soil Sampling Plan to NJDEP.
- March 27, 1985. AT&T provides draft Amended Environmental Clean-Up Plan to NJDEP.
- April 3, 1985. AT&T meets with NJDEP to review draft Amended Environmental Clean-Up Plan. NJDEP accepts soil clean-up plan in principle, subject to several refinements.
- April 16, 1985. AT&T meets with NJDEP regarding ground-water work and requests additional wells to be installed.
- April 29, 1985. AT&T meets with NJDEP for progress update. Remaining soil clean-up issues are resolved in principle. Ground-water clean-up at well AT&T 11 is approved in principle (see Figure 1-2 in map pocket for locations). NJDEP requests additional deep well.

- May 2, 1985. AT&T initiates fifth sampling round to evaluate PCB's in Well AT&T 9 and contamination in unresolved areas.
- May 24, 1985. AT&T initiates sixth sampling round to further evaluate PCB's at well AT&T 9.
- June 7, 1985. AT&T meets with NJDEP to provide results of PCB soil sampling in vicinity of well AT&T 9.
- June 12, 1985. AT&T initiates seventh sampling round to evaluate PCB's along railroad line in areas 4, 5, & 6.
- June, 1985. AT&T provides final Amended Environmental Clean-Up Plan, in conjunction with Plating Shop Closure Plan and Site Hydrogeologic Conditions, to NJDEP.

1.3 Plan Organization

The Amended Clean-up Plan is explained in the following sections. Section 2 provides all of the analytical results of soil samples taken and describes the proposed soil clean-up. Section 3 provides a brief summary of the ground-water investigation and a full explanation of the proposed remedial action. A more comprehensive examination of ground water is provided in the Site Hydrogeologic Conditions Kearny Works prepared and submitted separately by Dan Raviv Associates and bound separately as Appendix E. Section 4 provides a description of other clean-up activities including a summary of the Plating Shop Clean-up Plan. The more detailed Plating Shop Clean-Up Plan prepared by ERT is submitted separately as ERT Document No. D367-100B. Section 5 is a summary of the schedule and costs associated with all the clean-up activity. For the sake of completeness, Appendix A provides all the analytical data obtained on soils. Appendix B contains a compilation of all the sampling and analytical methodologies used. Appendix C contains a report relating to the determination of safe levels of lead in the soil based on a health risk assessment. Appendix D contains the Plating Shop Closure Plan (ERT Document D367-100B) with updates for post clean-up evaluation and health and safety procedures. A separate submittal from DRAI details the site hydrogeology and is referenced as Appendix E.

1.4 Site History and Surrounding Conditions

The Environmental Cleanup Responsibility Act (ECRA) provides that the NJDEP adopt minimum standards for soil, ground water and surface water quality necessary for the detoxification of the site of an industrial establishment subject to the provisions of ECRA. The standards are intended to insure that the potential for harm to public health and safety is minimized to the maximum extent practicable. Such standards are to take into consideration "the location of the site and surrounding ambient conditions..." Until the NJDEP adopts minimum standards, the NJDEP is required to review, approve or disapprove clean-up plans on a case-by-case basis. At the present time, minimum standards have not been adopted and clean-up plans are being reviewed on a case-by-case basis.

AT&T's Kearny Works is located in the town of Kearny, NJ, on a peninsula bounded on the east by the Hackensack River and on the west by the Passaic River (see Figure 1-1). The confluence of these rivers at the southern tip of the peninsula produces the body of water known as Newark Bay. The water areas adjacent to the site are tidal and brackish. The salinity level of surface waters and ground water preclude the use of these waters for drinking purposes.

The southern portion of the Kearny peninsula is separated from the remainder of the town by a heavy concentration of rail lines which include the main rail lines which enter New York City (formerly owned by the Pennsylvania Railroad) and the Path lines from Newark to Jersey City. The peninsula area, therefore, is isolated from all surrounding areas by water or rail corridors.

Direct access to the southern portion of the peninsula is provided by alternate truck Route 1 and 9 (Lincoln Highway), which crosses both the Passaic and Hackensack Rivers on high level bridges. The highway is located approximately at the northern boundary of the Kearny Works site and is partially elevated as it crosses the peninsula with ramp connections leading down into the plant area.

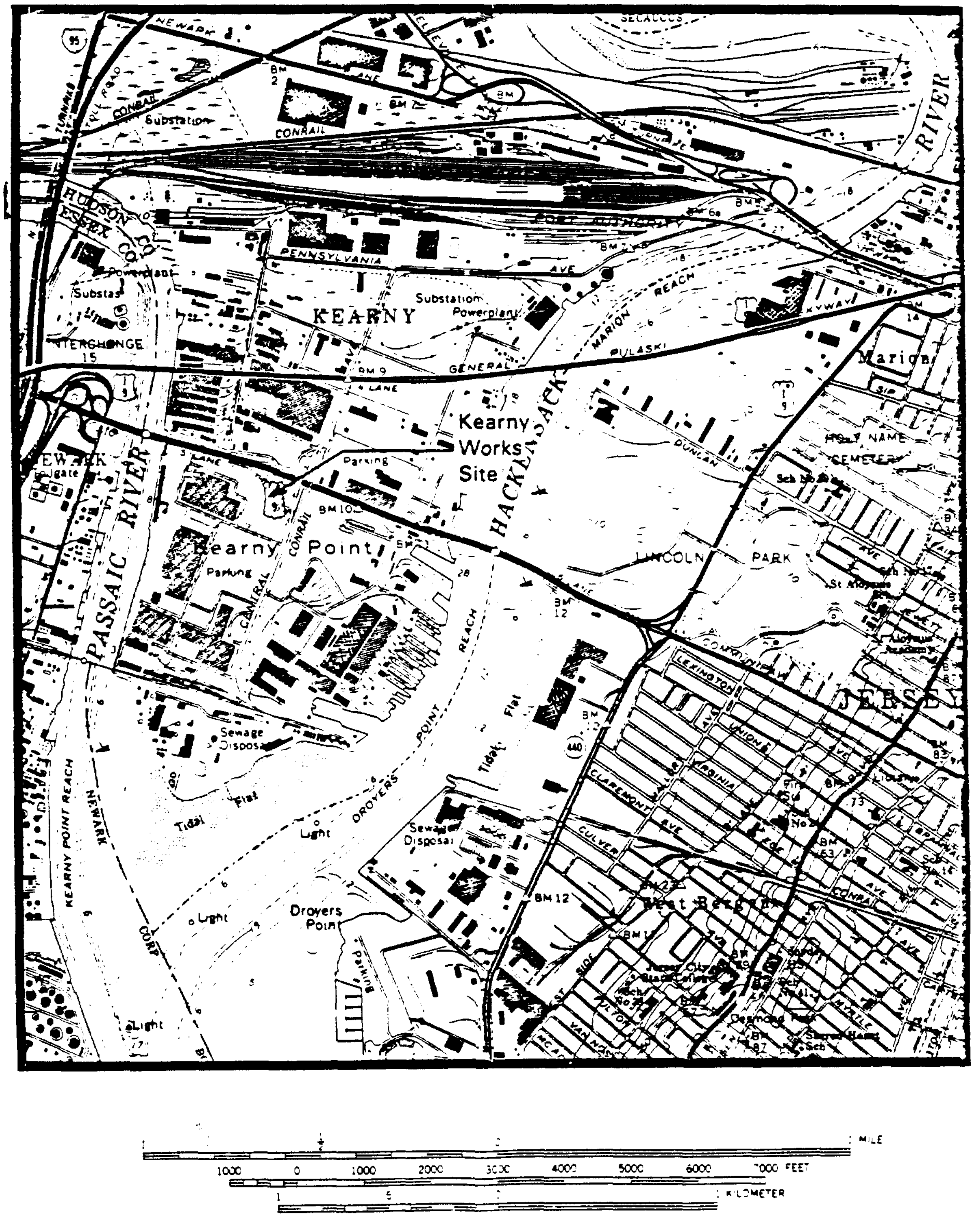

Figure 1-1 Map Showing Site Location and Adjacent Geographic Features

The peninsula area of south Kearny remained essentially undeveloped during the 19th century. It is shown as meadowlands on the 1896 Vermeule Map. A review of historical records indicates that the initial development of the peninsula commenced shortly after the turn of the century with significant developments occurring during the decade commencing in 1910. From the onset, development of the peninsula area focused upon heavy industrial uses. The dedication of this entire area to industrial activities has continued without interruption for 75 years.

By the early 1920s, the property immediately east of the Kearny Works site was occupied by the Federal Shipbuilding Company and by Blast Furnace Products Co. The northern portion of the present Kearny Works site at that time had been developed by the Ford Motor Company. Some of the other industrial users north of the Ford site included Shupe Terminal Corp., Riverside Steel Casting Co., Pure Oil Co., Egyptian Lacquer Co., Pyramid Petroleum Products and Warren Chemicals.

In 1925, AT&T acquired the Ford Motor Company property and adjacent parcels to the south. It has occupied the area continuously for 60 years. By the late 1920s, the western end of the peninsula south of the Kearny Works site had been developed by the Boston Excelsior Company.

As the serial photographs located in Section 2 reveal, this industrial character has been constant. During its entire 75-year period of development, the South Kearny peninsula has been devoted exclusively to industrial uses, warehousing and truck terminals. At no time has any portion of this area been used for residential purposes.

During this period, the industrial activities surrounding the Kearny Works site were served by a series of rail freight lines as well as the Lincoln Highway. Moreover, large scale ship salvage activities were conducted on a portion of the site directly east of the subject property. The heavy rail, truck and car activities around the site are part of the surrounding ambient conditions.

The area remains zoned for industrial use and there is every indication that the Town of Kearny intends to continue this use pattern for the foreseeable future. In 1983, the Planning Board of the Town of Kearny commissioned the preparation of the "South Kearny Industrial Development Plan." The objective of the report was to improve the attractiveness of the area for industrial development and to improve the area's performance as a tax ratable and employment resource. The following statement from the report describes generally the current development pattern of the entire peninsula.

> "Currently, development patterns in the South Kearny area generally revolve around warehousing and heavy industrial uses. Several large industrial concerns are located on scattered sites throughout the area. However, much of the total land area is devoted to the outdoor parking or storage of trucks, trailers and large containers.
>
> "Lincoln Highway, with its east-west orientation, and Central Avenue, running north-south, divide the area into four quadrants. Land use in the northeastern section of the peninsula is largely devoted to outdoor storage and warehousing uses. Some open vacant land is also present. Land use in the northwestern portion of South Kearny is composed of a variety of uses. Warehousing and storage uses are the most common activities, with heavy industrial uses predominating along the Passaic riverfront. Commercial uses are scattered along Jacobus Avenue and Lincoln Highway.
>
> "The area south of Lincoln Highway is dominated by heavy industrial activity. The Western Electric plant dominates the southwestern portion of the peninsula, while industrial uses associated with the Port of Kearny are located in the southeastern portion. A sizable area of open vacant land is also located in this area, along the east side of Central Avenue."

The nearest residential areas within the Town of Kearny itself are approximately five miles distant. The intervening areas include dump sites, wetlands and major rail and highway complexes. The area immediately adjacent to the Kearny Works property across the Passaic River, which is within the City of Newark, is similarly devoid of residential development and devoted to heavy industrial uses. A major portion of this area is occupied by an oil storage facility owned by Hess Oil Company. The residential areas within Newark closest to the Kearny Works are approximately two miles distant. The area in Jersey City nearest the peninsula across the Hackensack River has similar characteristics. The nearest residential area in Jersey City is located more than one mile from the entrance to the site. Access to the site from either Jersey City or Newark housing areas requires crossing a series of heavily used highway routes.

Many other, older urban industrial sites are surrounded by residential areas including high density public housing. The problems created by such locations have been noted by NJDEP both in Newark and Jersey City. The risk of accidental exposure of infants and young children to on-site contaminants may be high in such areas since access to these sites often involves short travel distances and few, if any, traffic barriers.

By virtue of its isolation from surrounding areas, however, the Kearny Works is not accessible to infants or young children unless they are brought to the site by adults. There is virtually no possibility of extended, accidental presence of infants, young children and teenagers on the site. Travelling across the river bridges by foot would be much more hazardous to youngsters than any on-site contaminants. Regular access to the site, therefore, is limited to those arriving by motor vehicle. These characteristics which are unique to this location should be taken into consideration in evaluating the potential hazard presented to children and adults from any on-site contamination.

2. SOIL CLEAN-UP

2.1 Soil Sampling and Analysis Procedures

2.1.1 Sampling Activities

Samples from the Kearny Works Site were taken during seven separate sampling rounds. The initial round, which was described in ERT Document No. D367 (the initial Environmental Cleanup Plan), took place during the period July 16-20, 1984. During this round, soil sampling areas were identified by a number. For the sake of convenience this numbering system has been maintained throughout the investigation. Figure 1-2 in the map pocket shows the locations of the various areas. A second soil sampling round to delineate specific areas of concern identified in the first round took place October 4-10, 1984. The NJDEP then requested further sampling in areas not previously investigated. Thus, a third round to sample underneath parking lot and lawn-covered areas took place December 12, 1984. The NJDEP then reviewed the data and gave a listing of areas that were acceptable, areas that would require more contaminant delineation, and areas that would need to be excavated (see letter from NJDEP to AT&T dated January 14, 1985). Then, a fourth sampling round to delineate all areas of concern took place February 5-8, 1985. As a result of PCBs detected in ground water at well AT&T-9, a fifth sampling round was conducted on May 2-10, 1985 to identify any PCB contaminated soil in areas 11 and 12. During this same time period, additional samples were obtained from four subareas (within areas 4, 33, 34 and 45) to better define the limits of excavation in these areas. A sixth sampling round was performed May 24, 1985 to define the vertical extent of PCB contaminated soils in areas 11 and 12. The seventh sampling round was intended to identify any PCB contaminated soil across the road from area 11 and 12 and was done on June 12, 1985. Given the volume of analytical data obtained, it is not suitable to provide all the analytical data in the text. Consequently, all of the soil analytical data obtained are shown in Appendix A. The more important data are shown on Figures 2-1 and 2-2 located in the back pocket. All the analytical methodologies are provided in Appendix B.

It should be noted that some additional soil samples and analyses were conducted during the hydrogeological investigation. These analytical data are reported and discussed in Appendix E (the Site Hydrogeologic Conditions, bound separately).

2.1.2 Sampling Locations and Dates

The first sampling round, described in the initial Environmental Clean-up Plan (ERT Document No. D367) was conducted during the period July 16-20, 1984 and followed very closely the Environmental Evaluation Measurement Plan (ERT Document No. D231 and D231a). The Environmental Evaluation Measurement Plan specified thirty-nine (39) locations where approximately 80 surface and/or subsurface soil samples were to be taken. (See Figure 2-1 for sample locations.) Appropriate samples were taken from all of the specified locations except locations 23 and 24. Subsurface samples at locations 23 and 24 could not be obtained because a thick concrete pad prevented access to subsurface soil. A total of three additional samples were taken which were not specified in the original sampling plan. These were additional subsurface samples at locations 7 and 15 and one additional surface sample at location 22. At each sampling location subsurface and surface samples were taken at the same place except for locations 25, 30, 17 and 32. Subsurface samples for locations 25 and 30 were taken from areas just off of the Building 170 concrete pad, approximately 30 yards from the surface samples. Subsurface samples at 17 and 32 were taken from soil approximately 20 feet from the subsurface borings. The analytical data for these samples were presented to the NJDEP in October 1984 as part of the Environmental Cleanup Plan, ERT Document No. D367.

The second sampling round, conducted without NJDEP approval (October 4-10, 1984), was designed to delineate soil constituent levels in those areas from which data showed unusually high levels of certain constituents. The sample locations and numbers were keyed into the original 39 locations. Detailed location information is presented on Figure 2-2 located in the back pocket. Approximately 140 surface and/or subsurface soil samples were taken around sample locations: 1, 4, 5, 6, 11, 14, 15, 16, 21, 22, 26, 33, 35, 36, 37, and 38. In addition 14 catch basins near sample point 6, and 2 catch basins near sample point 16, were sampled.

A third smaller sampling round was performed in December 1984 in response to the NJDEP's request for sampling underneath the large parking lot areas along the western and northern boundaries of the property and for sampling of large grass covered areas near buildings 171, 185, and 73. A total of ten locations were sampled and numbered 40-49 to tie into the original 39 locations. Analytical data for these samples were presented to the NJDEP in early January 1985.

The fourth sampling round (approximately 165 samples) was performed in February 1985 to completely delineate all uncovered areas on the site and to define the limits of excavation. Sample numbers were keyed into the existing 49 locations. However, the area location of sample points was determined by gridding the entire site on 100 foot intervals. Samples were taken in the grid locations for all uncovered areas of concern. Surface and/or subsurface soil samples were taken near sample locations: 1, 2, 3, 4, 5, 6, 7, 8, 9, 15, 16, 17, 21, 22, 25, 33, 34, 37, 38, 39, 44, 45, 46, and 47. Analyses were performed for those soil constituents that had been identified at high levels at the initial sample locations.

The fifth sampling round was performed during May 2 and 3, and on May 10, 1985. Soil samples were taken to determine the extent and magnitude of any soil PCB contamination in the area of sampling locations 11 and 12, which is the location of ground-water monitoring well AT&T-9. The ground-water investigation had revealed PCBs in the ground water at Well AT&T-9 at levels less than 1 ppb to 10 ppb (see Figure 1-2 in map pocket). Thirty-two soil samples, surface and subsurface, were taken from a total of 17 sampling points. Sample numbers were continued from the existing sampling locations in Area 11. Samples were taken from beneath the paved loading area, along the railroad spur, and at an electric transformer pad. All samples were analyzed for PCBs. The results are contained in Table A-7, Appendix A. The results are also shown in Figure 2-11 (see back pocket). Also during this time period, additional surface and subsurface samples were taken in subarea 4-6, areas 33 and 34, and subarea 45-1 to better define the limits of excavation. The results of this sampling round are provided in Table A-12, Appendix A and shown on Figure 2-1.

A sixth round of soil sampling was done in Area 11 on May 24, 1985 after the initial sampling and analyses revealed PCB contaminated soil. Six sample points were selected along the railroad spur next to building 25 (see Figure 2-11 in map pocket for locations and data) for subsurface sampling. Analytic results are reported in Table A-7, Appendix A.

Additional sampling has been done as a seventh sampling round on June 12, 1985 to identify any PCB contaminated soil along the railroad spur that goes through area 11 and 12. The sampling was done in the rail bed across the road from area 11 and 12, in area 4. The analytic data is not available as of this writing. The data from these samples will determine the lateral extent of PCB contaminated soil.

2.1.3 Sampling Methodology

The same sampling methodologies for soil samples were used throughout all five sampling rounds. The basic methods for surface and subsurface sampling are described in ERT SOP No.'s 7110 and 7115, contained in Appendix B, and are described as applied to this site in the paragraphs below.

Surface samples obtained at each location were composite samples of four to six small grab samples taken in the vicinity of each location marker. A stainless-steel trowel was used to obtain a grab sample of soil from zero to six inches depth at points in a radial pattern, approximately five feet from each location marker. A composite sample was obtained by mixing the grab samples in a clean, plastic bucket. Portions of the sample were then packed in 250 and 500 ml amber jars and 40 ml VOA vials using a stainless-steel trowel. Jars were labeled and stored in a large cooler prior to shipment to the laboratory.

For the first three sampling rounds, subsurface samples were obtained from the unsaturated zone using a hollow-stem auger drill

3) A series of tests were done at well 9 to confirm or deny the presence of PCBs in the ground water in that area. The results of the tests showed no PCB contamination above detectable limits (detection limit of 1 part per billion). These tests are explained further in Section 3.2.2 and in Appendix E.

Proposed clean-up activities for these points of concern are described in Section 3.2.

3.2 Ground Water Clean-up

3.2.1 VOC Contamination

The ground-water VOC contamination in the vicinity of well 11 (see Figure 1-2 in map pocket), discussed in Section 3.1, will be eliminated by a two phase procedure: (1) the soil removal plan described in Section 2 will eliminate the source of the contamination and (2) a drainage system will be installed to effectively remove contaminated ground water. The soil removal plan calls for removal of the top four feet of soil in the area of well 11. Also, the 14 catch basins in the concrete pad near well 11 will be cleaned out, removing the contaminated silt. The drainage system will consist of four perforated drainage pipes 4 inches in diameter. Three of the pipes will be approximately 100 ft apart and each 200 ft long and the fourth will serve as an interconnection as well as a drain. The 4-inch drain size will be adequate to remove the water that will accumulate without any back pressure effects. The layout of the drainage system is shown on Figure 3-1. This layout has been designed to minimize the number of physical objects such as large trees, concrete slabs or railroad tracks that must be removed in order to install the drainage system. Underground sewer and water lines have also been considered and will be avoided.

Boring logs from ground-water well installations in the area of well 11 show approximately six feet of miscellaneous fill material overlying a black silt layer (see Figure 5, Appendix E). It is

1) How long to operate clean up system
3) who operates system

3. GROUND-WATER INVESTIGATION

3.1 Ground-Water Evaluation Program

A ground-water investigation was performed at the AT&T Kearny Works site by Dan Raviv Associates, Inc. (DRAI), in conjunction with Environ Corporation of Princeton, New Jersey for AT&T. An investigation program was developed and submitted to the NJDEP as "AT&T Supplemental Ground Water Sampling, (Revised 2/28/85, per NJDEP)." Field activities then began February 11, 1985 and continued into March 1985. Based on the results from this sampling, additional data were collected in April, May, and June 1985. All field activities and sampling were documented by DRAI, and DRAI protocols for well installation and sampling were followed.

- Preparation of a site map, including well locations.
- Drilling and installation of shallow and deep wells.
- Well development and sampling.
- Chemical analysis of soils collected during well drilling.
- Chemical analysis of ground water.
- Preparation of hydrogeologic report

A total of 20 wells were installed for the study. The locations of the wells are shown on Figure 1-1. Details of the procedures, results, and conclusions of the study are provided in Appendix E, the hydrogeologic report submitted by DRAI and bound separately. The study results that are the most pertinent for the clean-up plan can be summarized as follows:

1) No volatile organic compounds (VOC) were found in wells 1 through 10, 12, 13, 18, and 20.
2) VOC were found in wells 11, 14, 15, 16, 17 and 19. This is a localized condition centered at well 11, where the total VOC concentration was highest. From this location, a rapid drop-off in concentration was observed in the other, surrounding wells (see Figure 20 of Appendix E).

TABLE A-1 (Continued)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g
6-1-B	72*	2.5*	180*	670*	1200*	-	<1.4*	-	7.6	-	-
6-1-A	120	<0.25	24	98	200	-	1.8	-	<2.6	8400	-
6-2-B	54	4.1	290	360	620	-	1.9	-	5.8	-	-
6-2-A	20	<0.25	22	84	81	-	<1.6	-	<2.8	1500	-
6-3-B	43	3.6	430	500	670	-	<1.5	-	3.4	-	-
6-3-A	28	0.64	54	170	210	-	<1.1	-	1.8	600	-
6-4-B	40	3.3	320	1000	940	-	<1.4	-	<2.9	-	-
6-4 B (Dup)	33	3.1	290	1000	860	-	<1.4	-	<3.0	-	-
6-4-A	11	2.2	16	320	150	-	<1.6	-	<2.0	-	-
6-5-B	18	20	96	580	740	-	3.7	-	8.8	-	-
6-5-A	7.2	8.1	19	120	100	-	<1.3	-	<1.7	300	-
6-6-B	57	0.35	130	100	400	-	2.6	-	<2.0	-	-
6-6-A	35	<0.25	26	52	170	-	<1.4	-	<1.3	26	-
6-7-B	87	<0.25	74	90	520	-	2.4	-	<1.8	-	-
6-7-A	12	<0.25	15	32	56	-	<1.4	-	<1.9	13	-
6-8-X	81	-	120	44	440	38	-	69	-	ND	-
6-8-X dup	17	-	40	180	370	33	-	82	-	-	-
6-8-Y	18	-	28	160	220	45	-	450	-	153.1	-
6-8 Z	27	-	17	42	<25	34	-	420	-	678.2	-
6-CB-1†	35*	11*	400*	480*	880*	-	32*	-	<9.3	<15	-
6-CB-2	29	6.3	340	400	800	-	10	-	<3.4	-	-
6-CB-3	22	11	860	700	1300	-	4.5	-	<3.0	-	-
6-CB-4	20	1.8	300	470	1100	-	2.0	-	<2.5	-	-
6-CB-5	14	4.8	160	500	830	-	2.7	-	<1.7	-	-
6-CB-6	15	1.8	90	480	790	-	<2.1	-	<3.3	-	-
6-CB-7	16	2.7	160	270	520	-	<2.0	-	<2.1	-	-
6-CB-8	24	3.8	100	300	1000	-	<2.7	-	<2.8	-	-
6-CB-9	16	4.6	250	580	1200	-	<2.3	-	<2.2	-	-
6-CB-10	17	6.2	160	860	890		<3.3	-	<4.9	69	-
6-CB-11	87	9.4	330	420	2000		6.8	-	10	-	
6-CB-12	43	4.0	810	530	850	-	<4.2		<6.5		

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates
†CB = Catch Basin sample.

Key: "X" and "B" denote surface samples.
"A" denotes 12" – 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

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TABLE A-1 (Continued)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g
GA-4-B†	46	2.6	8700	370	590	-	<1.4	-	5.0	36	-
GA-4-A	42	0.50	860	89	160	-	2.6	-	2.2	110	-
GA-5-B	19	2.5	13000	180	330	-	<1.4	-	2.4*	14	-
GA-5-B (Dup)	27*	2.6	8000*	190*	400	-	<1.5*	-	10	13	-
GA-6-B	83	5.1	5600	190	400	-	3.5	-	6.5	300	-
GA-6-A	8.5	<0.25	140	36	47	-	2.7	-	13	15	-
GA-7-B	39	3.0	13000	1100	440	-	1.5	-	<2.2	27	-
GA-7-A	21	<0.92	440	74	130	-	7.1	-	12	470	-
5A	8.7	-	49	100	54	46	<2.7	520	-	4.73	-
5B	110	-	850	1110	520	110	4.4	1270	-	0,46	-
5-1-B	260	4.0	560	420	900	-	11	-	<2.5	36	-
5-1-A	13	<0.25	19	39	83	-	<1.4	-	-	-	-
5-2-B	94	1.2	100	200	550	-	3.7	-	38	98	-
5-2-A	130	<0.25	21	43	150	-	<1.8	-	110*	-	-
5-3-B	360	2.3	110	260	580	-	2.7	-	<2.2	67	-
5-3-A	1200	0.37	14	99	640	-	7.3	-	12	-	-
5-4-B	1300	5.1	280	290	770	-	1.7	-	180	-	-
5-4-A	590	0.36	25	71	280	-	<1.4	-	<2.3	-	-
5-5-B	190	3.1	200	590	900	-	1.2	-	2.7*	-	-
5-5-A	13	<0.25	18	68	110	-	<1.5	-	<2.0	-	-
5-6-B	300	3.3	7800	250	520	-	<1.5	-	4.2	-	-
5-6-A	28	<0.25	19	54	38	-	<1.6	-	<2.2	280	-
5-7-B	260	3.0*	3900*	200*	560*	-	<1.4*	-	3.6	-	-
5-7-A	200	<0.25	580	36	33	-	<1.4	-	<2.1	201	-
5-8-X	300	-	200	820	1000	79	-	460	-	23.3	-
5-8-Y	48	-	19	170	610	42	-	610	-	ND	-
5-8-Z	33	-	17	45	<25	28	-	470	-	9.5	-
5-9-Y	19	-	18	96	73	35	-	310		23.0	-
5-9-Z	7.7	-	13	38	<25	15		130	-	34.7	
6A	29	-	25	90	120	<25	<2.5	920	54	113.4	-
6B	78	-	65	330	500	92	<2.5	110		1.70	

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates
†GA = Grassy Area near sample point 4.

Key: "X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

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TABLE A-1 (Continued)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g
6-CB-13	70	4.1	35	180	730	-	<1.2	-	14	-	-
6-CB-14	44	19	230	640	1300	-	<1.9	-	<2.7	-	-
7A	13	<0.25	<30	24	46	18	<3.0	55	-	-	9
7A (DUP)	18	-	<24	68	120	26	<2.3	100	-	-	8
7B	37	<0.25	72	210	450	32	5.4	100	-	-	8
7B (DUP)	30	-	110	120	710	23	<2.5	91	-	-	7
7C	-	-	-	-	-	-	-	-	-	-	99
7-1-X	47	-	250	-	540	-	-	-	-	-	-
7-2-X	34	-	-	190	180		-	-	-	-	
8A	7.6	<0.25	<28	90	360	28	<2.8	87	-	ND	-
8B	11	2.3	36	340	300	50	3.6	270	-	-	-
8-1-Y	-	-	-	<12	<25	-	-	-	-	-	-
8-1-Z	-	-	-	140		-	-	-	-	-	
8-2-Y	-	-	-	14	<25	-	-	-	-	-	-
8-2-Z	-	-	-	110	-	270	-	-	-	-	-
8-3-Y	-	-	-	9.4	<25	-	-	-	-	-	-
8-3-Z	-	-	-	47	190	-	-	-	-	-	-
8-4-Y	-	-	-	<12	<25	-	-	-	-	-	-
8-4-Z	-	-	-	52	30	-	-	-	-	-	-
8-5-Y	-	-	-	50	<25	-	-	-	-	-	-
8-5-Z	-	-	-	450	150	-	-	-	-	-	-
9A	-	-	-	-	-	-	-	-	-	-	
9B	-	-	-	-	-	-	-	-	-	-	-
9-1-X	-	-	-	90	180	-	-	-	-	-	-
9-1-Y	-	-	<12	<25	-	-	-	-	-	-	-
9-1-Z	-	-	-	98	240	-		-	-	-	-
9-2-X	-	-	-	150	290	-		-	-	-	-
9-2-Y	-	-	-	30	71	-	-	-	-	-	-
9-2-Z	-		-	100	180	-		-	-	-	-
9-3-Y	-	-	-	43	<25	-		-	-	-	-
9-3-Z	-	-	-	49	87	-		-	-	-	

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates

Key: "X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

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TABLE A-1 (Continued)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g
9-4-X	-	-	-	250	290	-	-	-	-	-	-
9-4-Y	-	-	-	77	150	-	-	-	-	-	-
9-4-Z	-	-	-	77	150	-	-	-	-	-	-
10A	-	-	-	-	-	-	-	-	-	0.016	9
10B	-	-	-	-	-	-	-	-	-	-	17
11A	-	-	-	-	-	-	-	-	-	-	5,500
11-1-A	-	-	-	-	-	-	-	-	-	-	-
11-2-A	-	-	-	-	-	-	-	-	-	-	10,300
11-3-A	-	-	-	-	-	-	-	-	-	-	11,400
12A	-	-	-	-	-	-	-	-	-	-	110
13A	9.8	<0.25	<25	52	28	<25	<2.5	30	<12	0.023	45
13B	16	1.3	120	60	120	40	<2.5	110	<12	-	6
14A	23	-	180	240	1200	54	<3.4	120	<12	0.066	3700
14B	10	-	70	68	75	80	4.8	110	<12	-	23
14-1-A	35	<0.25	38	87	110	-	<1.3	-	-	-	<5
14-2-A	17	0.35	27	88	93	-	<1.3	-	-	-	42
14-3-A	15	0.50	34	45	160	-	<1.4	-	-	-	26
14-4-A	8.4	2.0	38	79	110	-	<1.3	-	-	-	56
14-5-A	5.8	0.28	25	53	130	-	<1.3	-	-	-	<5
14-6 A	14	<0.25	40	53	80	-	1.3	-	-	-	<5
14-7-A	23	<0.25	19	77	190	-	<1.3	-	-	-	<5
14-8 A	22	0.26	57	87	320	-	<1.3	-	-	-	13
14-9 A	16	0.38	36	58	150	-	<1.3	-	-	-	180
15A	-	-	-	-	-	-	-	-	-	2.24	110
15B	-	-	-	-	-	-	-	-	-	0.088	2000
15C	-	-	-	-	-	-	-	-	-	0.040	13
15-1-B	-	-	-	-	-	-	-	-	-	3.2	23
15-1-A	-	-	-	-	-	-	-	-	-	14	36
15-2 B	-	-	-	-	-	-	-	-	-	7.3	16
15 2 A	-	-	-		-	-		-		10	11
15-3 B	-		-			-		-	-	8.3	130

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates

Key: "X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

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TABLE A-1 (Continued)

Sampling Location	Arsenic μg/g	Cadmium μg/g	Chromium μg/g	Copper μg/g	Lead μg/g	Nickel μg/g	Selenium μg/g	Zinc μg/g	Cyanide μg/g	Total VOA μg/g	PHC** μg/g	PCB μg/g
16-10-X	40	-	340	150	190	160	-	290	-	ND	-	
16-10-Y	16	-	38	65	78	38	-	200	-	0.8	-	
16-10-Z	9.6	-	31	120	180	29	-	120	-	18.5	-	
16-CB-1*	14	1.7	260	-	240	-	<1.3	-	-	-		
16-CB-2	15	2.4	310	600	730	-	<1.3	-	-	-	-	
17A	4.2	<0.25	<25	88	<25	<25	<2.5	48		-	-	
17B	20	4.1	270	400	600	92	<2.5	680		-	-	
17-1-X	2.6	-	34	46	120	16	-	200	-	ND	-	
17-1-Y	17	-	960	110	130	59	-	140	-	-	-	
17-1-Z	7.0	-	19	38	73	14	-	62	-	2.8	-	
17-2-X	16	-	210	150	640	56	-	280	-	9.6	-	
17-2-Y	24	-	2800	77	130	180	-	230	-	80.7	-	-
17-2-Z	17	-	140	410	170	83	-	430	-	27.2	-	-
18A	-	-	-	-	-	-	-	-	-	-	-	-
18B	-	-	-	-	-	-	-	-	-	-		-
19A	8.9	<0.25	<27	84	54	22	<2.6	73	<12	-	-	-
19A (Dup)	6.2	<0.25	<28	68	55	29	<3.4	120	<12	-	-	-
19B	3.7	<0.25	<21	28	<21	16	<2.1	45	<12	-	-	-
20A	17	0.38	28	70	190	84	<2.3	160	<12	0.03	-	-
20B	15.	0.47	47.	130	150.	45	<2.6	230	<12	-		-
20B (Dup)	12	-	32	83	120	43	<2.9	180	<12	-		-
21A	10	-	50	55	250	<25	<2.5	130	<12	-	-	1.1
21B	26	-	68	160	700	65	<2.5	420	<12	0.039	-	12
21-1-B	-	-	-	-	-	-	-	-	-	-	-	9.4
21-1-A	-	-	-	-	-	-	-	-	-	-		2.3
21-2-B	-	-	-	-	-	-	-	-	-	-	-	4.1
21-2-B (Dup)	-	-	-	-	-	-	-	-	-	-	-	3.4
21-2-A	-	-	-	-	-	-	-	-	-	-	-	1.6
21-3 B	-	-	-	-	-	-		-	-	-	-	32.3
21-3-A	-	-	-	-	-	-		-	-		-	<1.0
21-6 A	-	-	-	-	-			-	-	-	-	2.5

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates

Key: "X" and "B" denote surface samples.
"A" denotes 12" 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

TABLE A-1 (Continued)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g
15-3-A	-	-	-	-	-	-	-	-	-	10	30
15-5-Y	-	-	-	-	-	-	-	-	-	ND	35,000
15-5-Z	-	-	-	-	-	-	-	-	-	ND	8,200
15-6-Y	-	-	-	-	-	-	-	-	-	ND	940
15-6-Z	-	-	-	-	-	-	-	-	-	ND	1,100
15-7-Y	-	-	-	-	-	-	-	-	-	ND	8,100
15-7-Z	-	-	-	-	-	-	-	-	-	ND	100
15-8-Y	-	-	-	-	-	-	-	-	-	ND	1,600
15-8-Z	-	-	-	-	-	-	-	-	-	1.1	290
16A	12.	-	1160	226	380	170	26	390	-	234.7	-
16B	20	-	900	240	1670	76	<2.5	<140	-	-	-
16-1-B	57	15	420	220	1000	-	<13	-	-	110	-
16-1-A	10	<0.25*	500*	78*	200*	-	2.4*	-	-	220	-
16-2-B	43	4.6	420	360	670	-	3.0	-	-	70	-
16-2-A	57	2.3	630	360	1000	-	<1.2	-	-	330	-
16-3-B	44	3.0	340	170	350	-	<1.1	-	-	-	-
16-3-A	28	1.3	590	2300	3000	-	<1.3	-	-	250	-
16-4-B	40	3.5	480	180	350	-	<1.1	-	-	98	-
16-4-A	28	<0.25	1200	86	180	-	<1.4	-	-	24	-
16-5-B	49	1.0	490	170	480	-	<1.4	-	-	65	-
16-5-A	63	1.5	730	85	300	-	<1.4	-	-	23	-
16-6-B	53	18	300	290	860	-	<1.1	-	-	59	-
16-6-A	33	0.8	160	94	65	-	12	-	-	59	-
16-7-B	58	2.6	420	240	1000	-	<1.3	-	-	34	-
16-7-A	24	2.4	9000	140	170	-	2.4	-	-	160	-
16-8-B	45	3.3	400	160	300	-	<1.3	-	-	22	-
16-8-B (Dup)	14	3.5	530	180	290	-	<1.2	-	-	4.7	-
16-8 A	10	<0.25	1300	120	120	-	<1.4	-	-	73	-
16-9 X	34	-	220	160	280	62	-	280	-	1.62	-
16-9 Y	30	-	260	160	280	47	-	250	-	0.7	-
16-9 Z	-	-	110	74	55	34		200		0.7	-

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates
[1]CB = Catch Basin sample.

Key: "X" and "B" denote surface samples.
"A" denotes 12" 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

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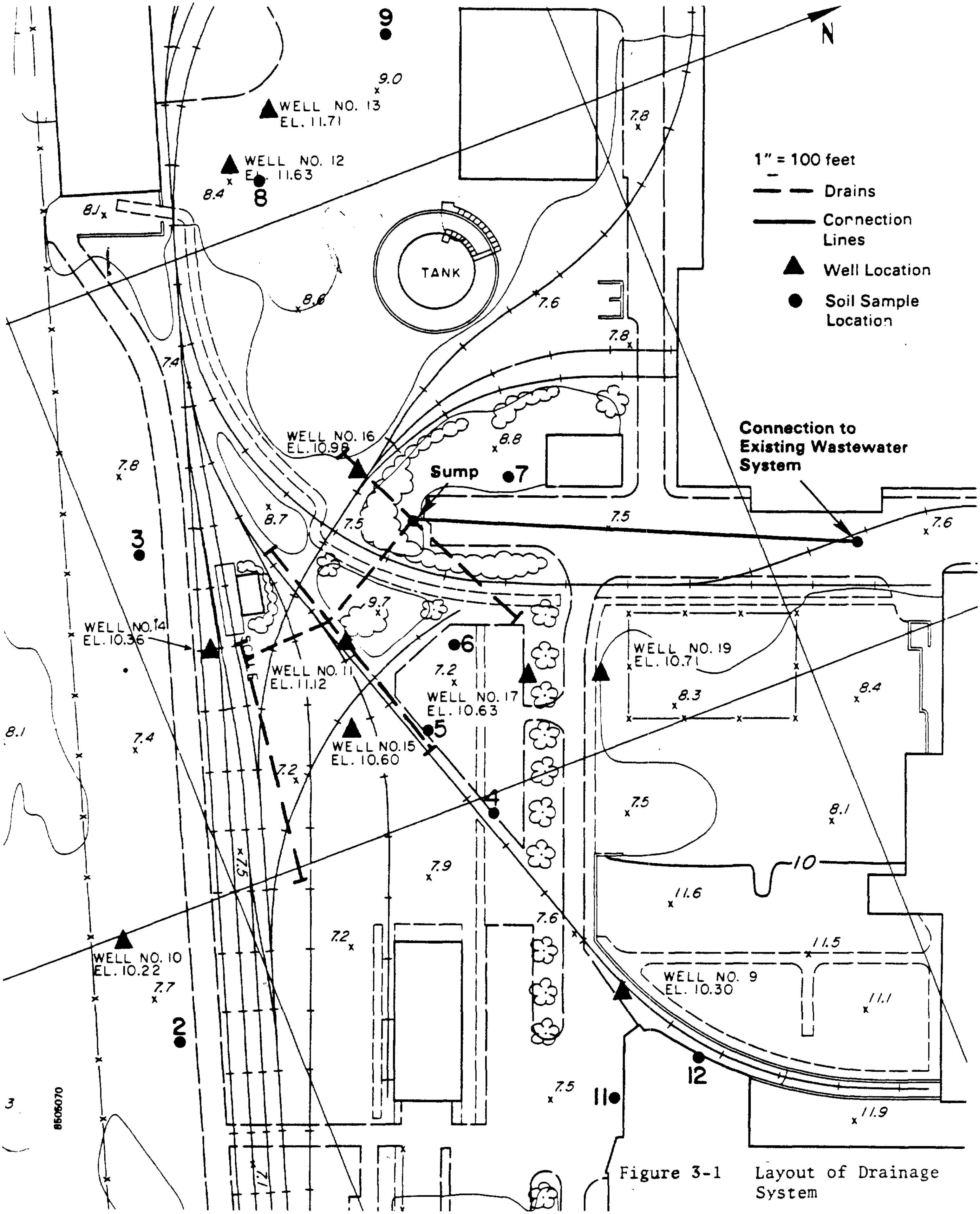

Figure 3-1 Layout of Drainage System

estimated from the hydrogeologic study of the area that the upper five feet of this silt layer is water bearing and thus might contain contaminated ground water. Below this point, the silt layer becomes increasingly impermeable. Therefore, in order to remove all of the contaminated ground water, the drainage system will be placed 13-16 ft below the ground level, at the top of the impermeable section of the silt layer. A cross-section of the drainage system is given in Figure 3-2. Trenches will be dug for the drains and stabilized by dewatering. The trenches will be approximately twelve feet wide at the surface and four feet wide at the bottom. Each trench will be filled with four feet of medium grade gravel at the bottom, four feet of medium grain sand overlaying the gravel, and then four feet of cover material. This design will allow ground water from all levels of the water bearing strata to flow relatively unimpeded to the drainage pipes.

The first step in the sequence of operations will be the installation of a ground-water treatment system. A sump will be installed and connected to each of the trenches to provide trench dewatering during excavation. During operation, water from the drainage system will be collected in the sump, and then pumped to the aeration treatment system. This system will discharge to the ground around well 11 to enhance aquifer flushing.

Initial operation of the drainage system will produce approximately 1500 gpd of ground/water with an estimated VOC concentration of 5000-7000 ppb. Within 90 days of operation it is estimated that the production rate will be approximately 150 gpd and the VOC concentration of the removed water will be 1000 ppb. Figure 3-3 shows the water table one year after the drainage system begins operation. It is estimated that approximately two to four years after the initial operation of the system, the maximum VOC concentration in the ground/water will stabilize at an acceptable level.

Samples will be taken and analyzed once each month for the first six months to determine the VOC concentrations in both the discharge water from the drainage system and in monitoring wells 11, 14, 15, 16,

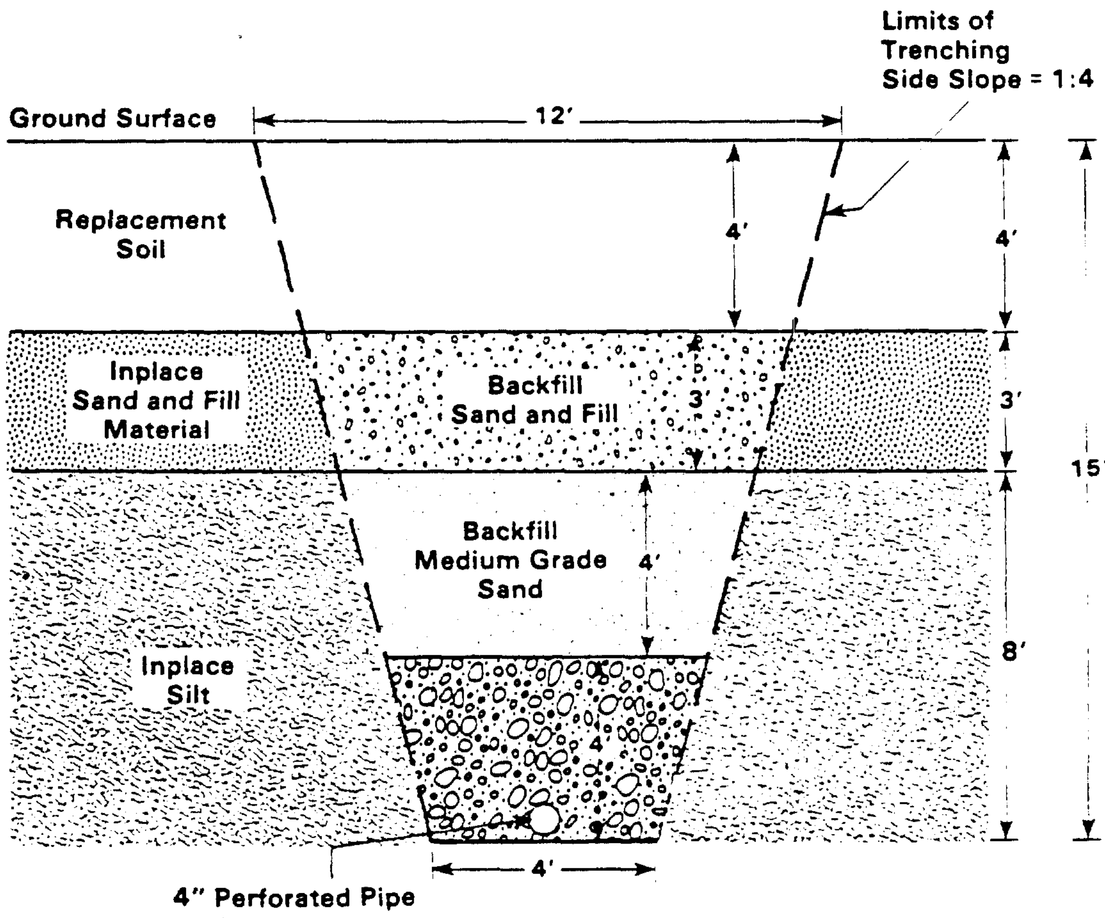

Figure 3-2 Cross-Section of Drainage System

Ed,
Is design
915' overkill?
8 feet into original ~~fill~~

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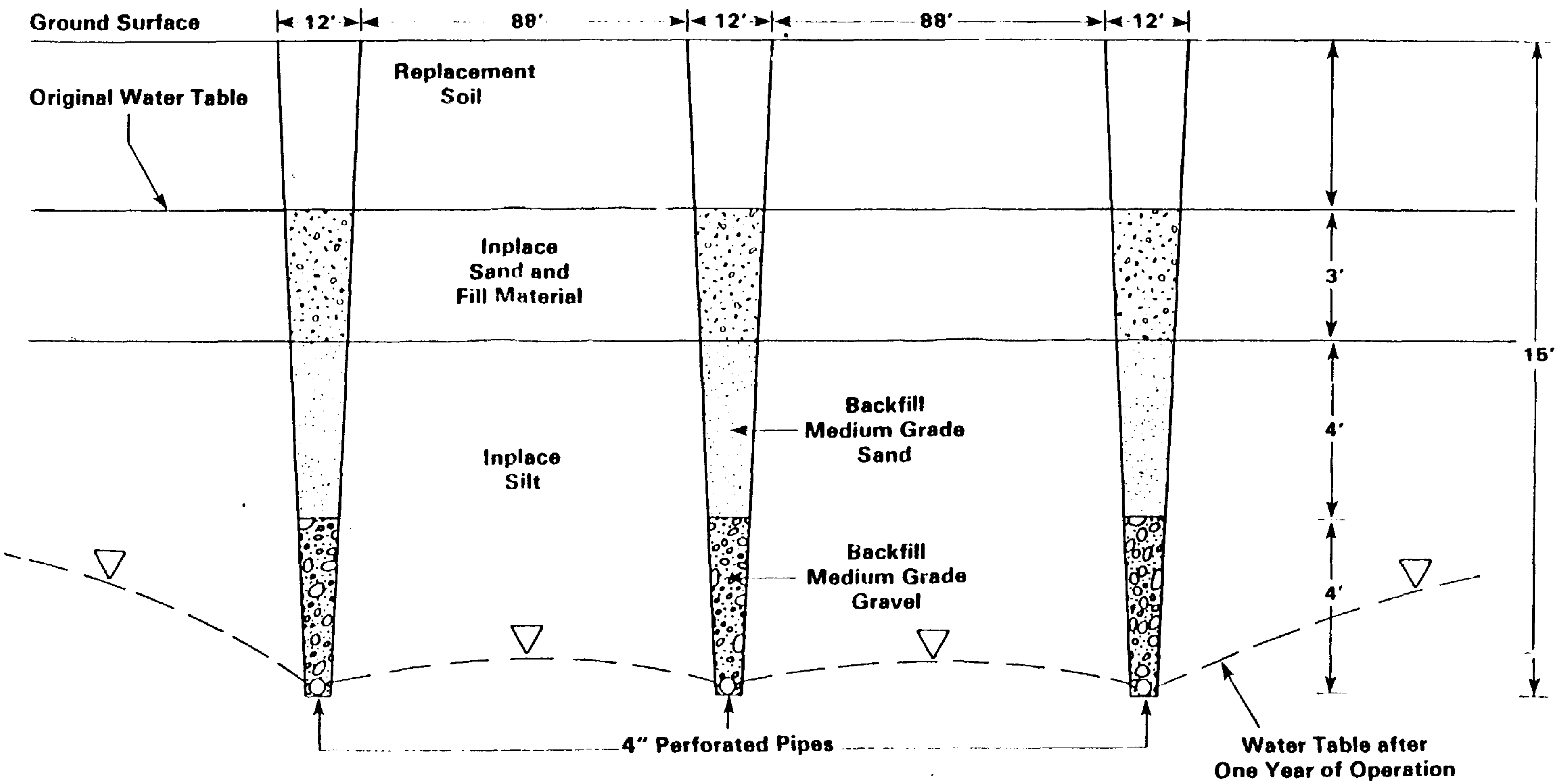

Figure 3-3 Cross Section of Drainage System and Projected Water Table After One Year of Operation (Vertical Exaggeration 10:1)

5. SUMMARY

The AT&T Kearny Works clean-up will include the excavation and removal of 38,200 cubic yards of contaminated soil, as described in Section 2.5 in addition to the other clean-up activities such as decommissioning and clean-up of the plating operations and wastewater treatment plant described in Section 4. Ground-water contamination is limited to localized areas that are being addressed by removal of contaminated soil and ground-water in those areas.

5.1 Overall Clean-up Schedule

Figure 5-1 shows the schedule for all clean-up activities at AT&T Kearny Works. This schedule is based on considerations discussed in Sections 2.9 and 4.6. All on-site clean-up work will be completed approximately 43 weeks after start-up. Complete documentation will be provided approximately four weeks after completion of on-site work.

5.2 Overall Clean-up Cost Estimate

Table 5-1 summarizes the estimated costs for all clean-up activities at the AT&T Kearny Works. This cost estimate is based on considerations discussed in Sections 2.10 and 4.6 and expenditures to date. In addition to actual cleanup costs, AT&T will have expended approximately $800,000 for the testing of soils and groundwater and the preparation of the proposed cleanup plan. The total cost to comply with ECRA, based upon the cleanup plan submitted herein, is **estimated to be $3.62 million.**

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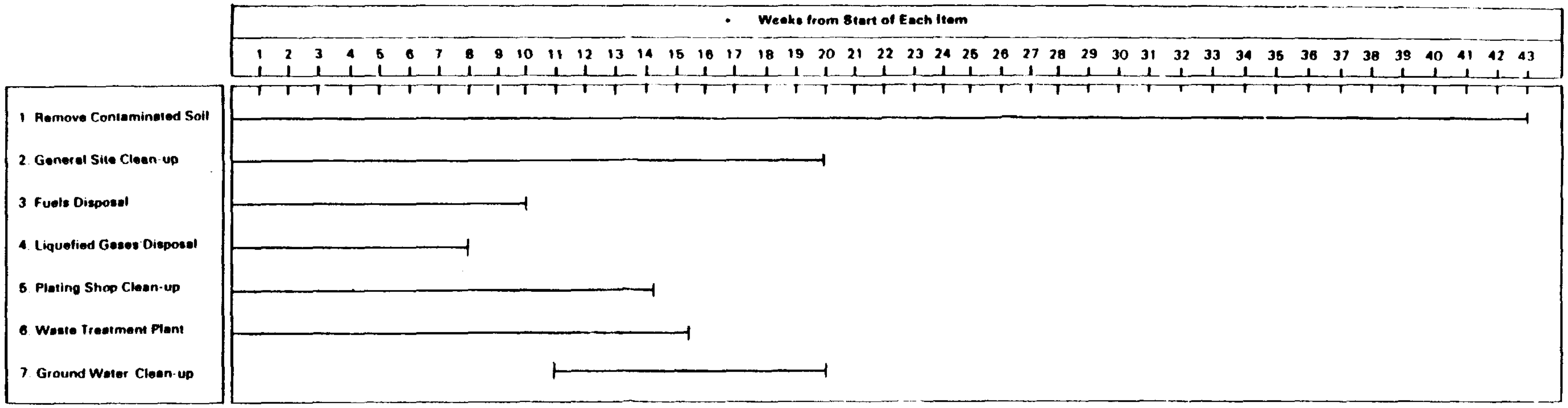

Figure 5-1 Overall Schedule for Site Clean-up Activities

TABLE 5-1

OVERALL COST ESTIMATE FOR AT&T KEARNY WORKS CLEAN-UP

1.	SOIL CLEAN-UP		$2,542,000
	a. Soil Removal	$2,093,000	
	b. Engineering	$218,000	
	c. Contingency @ 10%	$231,000	
2.	GROUND WATER REMEDIATION		$397,000
3.	OTHER SITE CLEAN-UP ACTIVITIES		$681,000
	a. General Site Clean-up	$132,000	
	b. Fuels Management and Liquified Gases	$35,000	
	c. Plating Operations	$372,000	
	d. Waste Treatment Plant	$142,000	
TOTAL			$3,620,000

APPENDIX A

SOIL ANALYTICAL DATA

APPENDIX A

SOIL ANALYTICAL DATA

Appendix A contains all the analytical data obtained as a result of soil sampling conducted at the AT&T Kearny Works site. This includes:

Table A-1:	Results of Analyses for Priority Pollutant Metals of Concern, Cyanide, Volatile Organics, and Petroleum Hydrocarbons (This table includes analytical data from the first four sampling rounds conducted. For the ease of comparison the information from these sampling rounds is integrated so that the data from one sampling location is all grouped together in the table.)
Table A-2:	Depths of Subsurface Samples
Table A-3:	Analyses for Selected EP Toxicity Extractable Metals from Soil Samples
Table A-4:	Results of Priority Pollutant Volatiles Scans of Samples from Locations Selected by Headspace Tests
Table A-5:	Summary of Analytical Results for Volatile Organics in Soil
Table A-6:	Total PCBs in Samples Collected October 4-10, 1984
Table A-7:	Total PCBs in samples collected May 2-10, 1985
Table A-8:	Results of Analyses for Sulfide Reactivity
Table A-9:	Results of Analyses for Cyanide Reactivity
Table A-10:	Results of Arsenic EP Toxicity
Table A-11:	Results of Analyses for All Priority Pollutant Metals, Cyanide, and pH from July 1984.
Table A-12:	Results of Analyses from Samples collected May 2-10, 1985
Enclosure A-13:	Results of Underground Storage Tank Testing

Samples are referenced to Figures 2-1 and 2-2 through a two or three number letter sample ID code, e.g. 1-6-B or 15-8-Y. This code is established as follows:

15 - 8 - Y

Area Location   Subsample within area   Depth of sampling

"X" and "B"	denotes a surface sample
"A"	denotes a composite, homogenized sample taken between depth of 12-36 inches
"Y"	denotes a grab sample obtained at 18" depth
"Z"	denotes a grab sample obtained at 36" depth

(Note: Sample identification numbers for the second tour have been changed slightly from the original reporting. The suffixes "A" and "B" have been substituted for "U" and "S" respectively to simplify the codification of identification numbers.)

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Enclosure A-13:	Results of Underground Storage Tank Testing

Samples are referenced to Figures 2-1 and 2-2 through a two or three number letter sample ID code, e.g. 1-6-B or 15-8-Y. This code

TABLE A-1 (Continued)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g	PCB µg/g
21-7-X	-	-	-	-	150	-	-	410	-	-	-	1.5
21-7-Y	-	-	-	-	240	-		270	-	-	-	ND
21-7-Y (Dup)	--	-	-	-	560	-	-	600	-			ND
21-7-Z	-	-	-	-	490	-	-	350	-	-	-	ND
21-8-X	-	-	-	38	-	100	-	-	-	-	-	1.7
21-9-X	-	-	-	-	50	-	-	140	-	-	-	ND
21-10-X	-	-	-	-	<25	-	-	95	-	-		ND
21-10-Y	-	-	-	-	55	-	-	250	-	-		ND
21-10-Z	-	-	-	-	96	-	-	300	-	-	-	ND
22A	10	-	52	55	590	<25	<2.5	550	<12	-	-	4.1
22B	12	-	50	78	410	38	<2.5	350	<12	0.031	-	21
22-1-B	-	-	-	-	-	-	-	-	-	-	-	6.5
22-1-A	-	-	-	-	-	-	-	-	-	-	-	19.8
22-2-B	-	-	-	-	-	-	-	-	-	-	-	2.6
22-2-A	-	-	-	-	-	-	-	-	-	-	-	2.9
22-3-B	-	-	-	-	-	-	-	-	-	-	-	3.1
22-3-A	-	-	-	-	-	-	-	-	-	-	-	9.6
22-4-B	-	-	-	-	-	-	-	-	-	-	-	2.6
22-4-A	-	-	-	-	-	-	-	-	-	-	-	5.8
22-5-B	-	-	-	-	-	-	-	-	-	-	-	4.5
22-5-A	-	-	-	-	-	-	-	-	-	-	-	5.4
22-6-B	-	-	-	-	-	-	-	-	-	-	-	6.2
22-6-A	-	-	-	-	-	-	-	-	-	-	-	<10.0
22-7-B	-	-	-	-	-	-	-	-	-	-	-	2.7
22-7-B (Dup)	-	-	-	-	-	-	-	-	-	-	-	4.4
22-8-B	-	-	-	-	-	-	-	-	-	-	-	16.5
22-9-B	-	-	-	-	-	-	-	-	-	-	-	15.0
22-9-A	-	-	-	-	-	-	-	-	-	-	-	<10.0
22-10-X	-	-	-	-	65	-	-	160	-	-		ND
22-11-X	-	-	-	-	51	-	-	120	-	-		ND
22-12-X	-	-	-	-	110	-	-	290	-	-		ND

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates

Key: "X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

TABLE A-1 (Continued)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g	PCB µg/g
22-12-Y	-	-	-	-	310	-		1400	-	-	-	ND
22-12-Z	-	-	-	-	150		-	400	-	-	-	1.3
23B	7.3	<0.25	30	78	45	30	<2.5	170	<12	-	-	-
24B	6.2	<0.25	<19	26	<19	20	<1.9	56	<12	-	-	-
25A	5.0	-	<25	150	88	<25	<2.5	750	<12	-	-	-
25B	15	<0.25	40	42	30	25	<2.5	100	<12	-	-	-
25-1-X	-	-	-	-	270	-	-	250	-	-	-	
25-1-Y	-	-	-	-	460	-	-	100	-	-	-	
25-1-Z	-	-	-	-	210	-	-	170	-	-	-	
25-2-X	-	-	-	-	1100	-	-	2500	-	-	-	
25-2-Y	-	-	-	-	130	-	-	310	-	-	-	
25-2-Z	-	-	-	-	-	-	-	100	-	-	-	
25-2-Z dup	-	-	-	-	-	-	-	300	-	-	-	
25-3-X	-	-	-	-	-	-	-	350	-	-	-	
26A	8.1	-	1580	170	230	126	<2.9	1370	<12	-	-	
26B	6.9	-	<28	61	<28	28	<2.8	77	<12	-		
26-1-B	9.6	<0.25	34	48	48	-	<1.4	-	-	-	-	
26-2-B	8.1	<0.25	32	38	70	-	<1.3	-	-	-	-	
26-3-B	9.9	<0.25	30	30	44	-	<1.4	-	-	-	-	
26-4-B	6.4	<0.25	27	32	49	-	<1.2	-	-	-	-	
26-5-B	7.3	<0.25	33	35	53	-	<1.2	-	-	-	-	
26-6-B	6.8	<1.8	37	110	290	-	<1.4	-	-	-	-	
26-7-B	8.2	<0.25	27	33	57	-	<1.4	-	-	-	-	
26-8-B	5.5	<0.25	19	20	25	-	<1.4	-	-	-	-	
26-8-B (Dup)	7.1	<0.25	23	23	30	-	<1.2	-	-	-	-	
27A	5.8	-	<28	58	47	22	<2.7	94	<12	-	-	
27B	8.6	<0.25	<26	42	36	31	<2.6	100	<12	0.035	-	
28A	7.5	-	25	52	52	<25	<2.5	140	<12	ND	-	
28B	18	<0.25	32	22	<25	<25	<2.5	45	<12	ND	-	
29A	12.	-	<28	150	200	28	<2.7	170	<12		-	
29B	19.	3.8	56	130	390	51	<3.0	1220	<12	0.025		

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates

Key: "X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

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TABLE A-1 (Continued)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g	Chromium +6 µg/g
35-CB	44	<5.5	140	1000	820	-	3.0	-	-	-	-	-
36-CB	5.6	-	80	520	380	73	<1.9	920	-	-	1700	-
36-CB	7.1	<4.3	43	150	260	-	<1.1	-	-	-	-	-
37A	10.	-	84	78	110	22	<3.1	110	-	-	-	-
37A (Dup)	4.9	-	74	46	99	22	5.2	86	-	-	-	-
37B	9.3	-	5830	210	190	290	<2.5	800	-	0.148	-	-
37B (Dup)	6.3	-	<29	43	66	23	<2.9	150	-	-	-	-
37-1-B	11	2.6*	310*	220*	220*	-	<0.98	-	34	-		-
37-2-B	14	3.2	370	201	250	-	<1.3	-	-	-	-	-
37-3-B	20	4.5	5000	150	340	-	<1.6	-	-	-	-	-
37-4-B	17	1.3	1900	130	200	-	<1.3	-	-	-	-	
37-5-B	14	2.1	480	80	160	-	<1.4	-	-	-	-	
37-6-B	16	2.9	290	120	1400	-	6.3	-	-	-	-	
37-7-B	11	2.6	75	220	150	-	<1.2	-	-	-	-	
37-8-B	16	3.0	1500	140	<240	-	<1.3	-	-	-	-	
37-9-B	14	2.2	1300	320	280	-	<1.3	-	-	-	-	
37-10-B	23	3.4	6300	180	290	-	<1.4	-	-	-	-	
37-10-B (Dup)	140	<13	5500	600	330	-	<1.3	-	-	-	-	
37-11-B	13	2.6	540	200	240	-	<1.3	-	-	-	-	
37-12-B	17	4.8	3000	270	330	-	<1.4	-	-	-	-	
37-13-B	15	2.9	470	230	300	-	1.2	-	-	-	-	
37-13-B (Dup)	17	1.6	2700	240	440		<1.9	-	-	-	-	
37-14-X	17	-	33	83	180	36	-	270	<3.1	-	-	
37-16-X	51	-	80	130	170	43	-	280	<3.1	-	-	
38A	<2.5	-	26	13	<26	16	7.7	32	-	-	-	
38B	13	-	5060	250	230	230	<2.8	290	-	0.132	-	
38-1-B	17	3.3	1500	350	270	-	<1.2	-	100	-	-	
38-2-B	34	0.7	6300	110	210	-	<1.2	-	-	-	-	
38-3-B	54	1.7	7400	170	340	-	<1.3	-	-	-	-	
38-4-B	30	1.7	8300	530	240		<1.5	-	-	-	-	
38-5-B	20	1.6*	3000*	220*	240*		<1.2	-	-	-	-	

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates

Key: "X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

853890202

TABLE A 1 (Continued)

Sampling Location	Arsenic μg/g	Cadmium μg/g	Chromium μg/g	Copper μg/g	Lead μg/g	Nickel μg/g	Selenium μg/g	Zinc μg/g	Cyanide μg/g	Total VOA μg/g	PHC** μg/g
38-6-B	25	1.2	8200	130	280	-	<1.4	-	-	-	-
38-7-B	12	0.5*	8200*	90*	140*		<1.4	-	-	-	
38-8-B	82	0.83	9300	130	300	-	4.6	-	-	-	-
38-9-B	28	1.9	1100	180	340	-	2.0	-	-	-	-
38-10-B	44	2.6	5600	140	320	-	<1.4	-	-	-	-
38-11-B	21	4.1	680	220	400	-	2.0	-	-	-	-
38-12-X	51	-	480	410	740	140	-	480	<3.1	-	-
38-14-X	59	-	1100	60	89	92	-	180	3.1	-	-
39A	4.8	-	<23	13	<26	18	<2.3	96	-	-	-
39B	12	-	220	130	280	36	<2.7	230	-	-	-
39-2-X	-	-	200	-	350	-	-	-	-	-	-
39-3-X	-	-	210	-	250	-	-	-	-	-	-
39-4-X	-	-	88-	-	260	-	-	-	-	-	-
39-7-X	-	-	110	-	300	-	-	-	-	-	-
39-7-X (Dup)	-	-	91	-	280	-	-	-	-	-	
40A	14	<1.2	48	63	120	63	5.2	120	<2.5	<2.5	180
41A	14	<0.5	6800	53	64	250	<1.3	190	<2.5	<2.5	1700
42A	15	<0.25	50	71	54	71	<1.3	46	<2.5	<2.5	2800
43A	12	<0.25	60	63	60	69	2.1	51	<2.5	<2.5	82
44A	22	1.0	32	59	56	53	<1.3	150	<2.5	<2.5	150
44B	29	2.0	770	130	290	110	<1.3	200	<2.5	-	26
44-1 X	-	-	66	-	200	-	-	-	-	-	-
44-2 X	-	-	160	-	520	-	-	-	-	-	-
44-3 X	-	-	96	-	270	-	-	-	-	-	-
45A	29	0.78	46	68	300	47	<1.3	230	<2.5	<2.5	51
45B	24	0.33	58	64	210	44	<1.3	190	<2.5	-	16
45-1-X	-	-	-	-	210	-	-	-	-	-	-
45-1-X (dup)	-	-	-	-	210	-	-	-	-	-	-
45-1-Y	-	-	-	-	170	-	-	-	-	-	-
45-1-Z	-	-	-	-	590	-		-	-	-	
45-2-X	-	-	-	-	190	-		-	-	-	-

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates

Key: "X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

853890203

TABLE A-1 (Continued)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g	Chromium +6 µg/g
30A	8.0	-	<30	45	130	24	<3.0	86	<12	ND	-	
30B	4.4	<0.25	<25	49	<25	32	<2.5	69	<12	-	-	
31A	9.5	-	72	60	42	38	<2.5	160	<12	-	-	
31B	14	1.6	55	230	510	45	<2.5	1050	-	0.025	-	
32A	9.6	-	59	280	150	53	17	120	-	-	-	
32B	7.5	<0.25	60	58	74	35	<2.0	110	-	-		
33A	16	-	110	65	98	48	<2.5	100	-	-	-	
33B	85	-	6500	150	380	510	<2.55	720	-	-	-	
33-1-B	30	1.0	5300	490	880	-	<1.4	-	160	-	-	-
33-2-B	42	1.5	11000	730	1400	-	<1.4	-	-	-	-	-
33-3-B	40	1.6	8500	620	1100	-	<1.3	-	-	-	-	-
33-4-B	51	2.0	9900	740	1000	-	11	-	-	-	-	-
33-5-B	26	2.8	19000	1200	1900	-	14	-		-	-	-
33-6-B	35	1.6	4800	430	900	-	3.1	-	-	-	-	-
33-7-B	54	1.2	8600	620	1100	-	1.5	-	-	-	-	-
33-8-B	40*	1.8*	11000*	750*	1400*	-	<1.5	-	-	-	-	-
33-9-X	21	-	2200	210	350	640	-	1000	14	-	-	17
33-10-X	26	-	6400	520	840	1800	-	2600	54	-	-	10
33-11-X	12	-	8400	710	1000	2300	-	3900	95	-	-	4.7
33-12-X	19	-	2900	350	700	1100	-	1700	49	-		3.4
33-13-X	22	-	480	180	480	170	-	910	3.5	-	-	16
33-14-X	16	-	2000	210	670	620	-	1100	21	-	-	1.7
33-14-X dup	16	-	1700	200	750	650	-	1100	18	-	-	4.9
34A	6.0	-	27	36	<27	19	<2.7	60	-	-	-	-
34B	8.6	1.4	290	180	250	110	<2.8	490	-	-	-	
34-1-X	15	-	110	98	270	62	-	320	<3.1	-	-	
34-2-X	11	-	53	98	140	29	-	190	<3.1	-	-	-
34-4-X	4.6	-	110	140	650	42	-	570	<3.1	-	-	-
34-5-X	7.7	-	2500	310	400	1200	-	2300	39	-	-	-
34-6-X	12	-	5600	450	490	960	-	1700	36	-	-	-
35-CB+	31	-	220	1370	1140	110	<4.9	1220	-	0.168	4100	-

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates
+CB = Catch Basin sample.

Key:
"X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

853890204

TABLE A-1 (Continued)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g
45-2-Y	-	-	-	-	<25	-	-	-	-	-	
45-2-Z	-	-	-	-	46	-		-	-	-	-
45-3-X	-	-	-	-	350	-	-	-	-	-	-
45-3 Y	-	-	-	-	310	-	-	-	-	-	-
45-3-Z	-	-	-	-	300	-	-	-	-	-	-
45-4-X	-	-	-	-	290	-	-	-	-	-	-
45-4-Y	-	-	-	-	100	-	-	-	-	-	-
45-4-Z	-	-	-	-	370	-	-	-	-	-	-
45-5-X	-	-	-	-	580	-	-	-	-	-	-
45-5-Y	-	-	-	-	66	-	-	-	-	-	-
45-5-Z	-	-	-	-	<25	-	-	-	-	-	-
46A	11	<0.25	52	45	130	41	<1.3	71	<2.5	<2.5	26
46A (Dup)	12	<0.25	33	52	120	50	<1.3	86	-	-	-
46B	17	<0.25	80	60	160	37	1.4	98	<2.5	-	42
46-1-X	-	-	-	-	370	-	-	-	-	-	-
46-2-X	-	-	-	-	230	-	-	-	-	-	-
46-3-X	-	-	-	-	310	-	-	-	-	-	-
46- 3-X dup	-	-	-	-	320	-	-	-	-	-	-
47A	12	<0.25	30	68	75	55	<1.3	48	<2.5	<2.5	<5
47B	39	0.58	120	66	310	50	<1.3	75	<2.5	-	14
47-1-X	-	-	79	-	330	-	-	-	-	-	-
47-2-X	-	-	80	-	210	-	-	-	-	-	-
47-3-X	-	-	120	-	460	-	-	-	-	-	-
47-4-X	-	-	240	-	400	-		-	-	-	-
47-5-X	-	-	120	-	380	-	-	-	-	-	-
47-6-X	-	-	91	-	240	-	-	-	-	-	-
47-7-X	-	-	110	-	320	-	-	-	-	-	-
47-7 X dup.	-	-	83	-	260	-	-	-	-	-	
47-8 X	-	-	250	-	450	-	-	-	-	-	-
48B	24	0.73	80	100	380	54	2.2	240	<2.5	-	83
49B	25	0.90	95	120	390	58	6.8	500	<2.5	-	29
49B Dup	24	0.78	96	100	410	57	<1.3	250	<2.5	-	

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates

Key: "X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

TABLE A-2

DEPTHS OF SUBSURFACE SAMPLES

Location	Depth, ft.	Location	Depth, ft.
1A	1-3	32A	1-3
2A	1-3	33A	1-3
3A	1-3	34A	3-5
4A	1-3	37A	1-3
5A	1-3	38A	1-3
6A	1-3	39A	1-3
7A	1-3	40A	1-3
7C	10-12	41A	3-5
8A	1-3	42A	1-3
9A	1-3	43A	1-3
10A	1-3	44A	2-4
11A	1-3	45A	1-3
12A	1-3	46A	1-3
13A	3-5	47A	3-5
14A	3-5	4-1-A	1-3
15A	1-3	4-2-A	1-3
16A	1-3	4-4-A	1-3
17A	1-3	GA-1-A	1-3
18A	1-3	GA-2-A	1-3
19A	1-3	GA-3-A	1-3
20A	1-3	GA-4-A	1-3
21A	1-3	GA-5-A	1-3
22A	3-5	GA-6-A	1-3
25A	3-5	GA-7-A	1-3
26A	1-3	5-1-A	1-3
27A	1.5-3.5	5-2-A	1-3
28A	1.5-3.5	5-3-A	1-3
29A	1-3	5-4-A	1-3
30A	1.5-2	5-5-A	1-3
31A	1-3	5-6-A	1-3

Note: All sample numbers suffixed, -Y and -Z, were taken as grab samples at 18" and 36" respectively.

TABLE A-2 (Continued)

Location	Depth, ft.	Location	Depth, ft.
5-7-A	1-3	21-3-A	2-3
6-1-A	1-3	21-6-A	2-3
6-2-A	1-3	22-1-A	2-3
6-3-A	1-3	22-2-A	2-3
6-4-A	1-3	22-3-A	2-3
6-5-A	1-3	22-4-A	2-3
6-6-A	1-3	22-5-A	2-3
6-7-A	1-3	22-6-A	2-3
14-1-A	1-3	22-9-A	2-3
14-2-A	1-3		
14-3-A	1-3		
14-4-A	1-3		
14-5-A	1-3		
14-6-A	1-3		
14-7-A	1-3		
14-8-A	1-3		
14-9-A	1-3		
15-1-A	1-3		
15-2-A	1-3		
15-3-A	1-3		
16-1-A	1-3		
16-2-A	1-3		
16-3-A	1-3		
16-4-A	1-3		
16-5-A	1-3		
16-6-A	1-3		
16-7-A	1-3		
16-8-A	1-3		
21-1-A	2-3		
21-2-A	2-3		

TABLE A-1

RESULTS OF ANALYSES FOR PRIORITY POLLUTANT

METALS OF CONCERN, CYANIDE, VOLATILE ORGANICS, AND PETROLEUM HYDROCARBONS

(all values are expressed in ppm)

Sampling Location	Arsenic µg/g	Cadmium µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Selenium µg/g	Zinc µg/g	Cyanide µg/g	Total VOA µg/g	PHC** µg/g
1A	10.	<0.25	<28.	73	45.	20.	<2.8	42.	-	0.033	-
1B	120	-	160	200	380	49	4.1	140	-	-	-
1-1-B	200	0.33	74	240	250	-	3.0	-	2.6	-	-
1-2-B	530	<0.25	150	220	600	-	<1.4	-	-	-	-
1-3-B	110	0.52	68	180	290	-	<1.4	-	-	-	-
1-4-B	59	0.37	64	150	190	-	<1.2	-	-	-	-
1-5-B	70	0.74	76	140	190	-	<1.2	-	-	-	-
1-6-B	700	<0.25	320	250	630	-	<1.3	-	-	-	-
1-7-B	510	0.38	160	280	590	-	<1.4	-	-	-	-
1-8-B	110	0.36	75	150	220	-	<1.3	-	-	-	-
1-8-B dup	110	0.42	60	250	200	-	<1.2	-	-	-	-
1-9-X	13	-	140	55	140	65	42	-	160	-	-
1-10-X	140	-	1500	200	680	170	-	560	-	-	-
1-11-X	42	-	160	111	300	61	-	200	-	-	-
1-12-X	18	-	250	160	380	35	-	92	-	-	-
1-13-X	24	-	45	97	270	23	-	90	-	-	-
1-14-X	15	-	200	120	310	77	-	380	-	-	-
1-15-X	66	-	1000	560	780	77	-	240	-	-	-
1-16-X	17	-	470	98	210	100	-	310	-	-	-
1-17-X	51	-	1100	620	790	74	-	260	-	-	-
1-18-X	23	-	170	110	510	41	-	94	-	-	-
2A	17	0.93	28	110	82	<25	<2.5	160	<12	ND	-
2B	29	4.0	240	310	460	62	<2.5	200	-	-	-
2-1-X	16	-	220	130	180	31	-	77	-	-	-
2-2-X	46	-	660	600	730	92	-	380	-	-	-
2-2-X dup	45	-	620	600	760	100	-	440		-	-
2-3-X	22	-	180	580	530	240	-	1200	-	-	-
2-4-X	26	-	190	270	330	70	-	120	-	-	-
3A	4.8	0.48	<28	82	85	20	2.8	54	-	0.038	-
3B	21	<0.25	110	200	390	68	4.6	180	-	-	-

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates

Key: "X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

853890208

TABLE A-1 (Continued)

Sampling Location	Arsenic μg/g	Cadmium μg/g	Chromium μg/g	Copper μg/g	Lead μg/g	Nickel μg/g	Selenium μg/g	Zinc μg/g	Cyanide μg/g	Total VOA μg/g	PHC** μg/g
3-1-X	23	-	120	270	610	100	-	170	-	-	-
3-2-X	21	-	58	230	430	100	-	96	-		-
3-3-X	22	-	280	220	300	120	-	380	-	-	-
3-4-X	6.7	-	1400	140	130	190	-	240		-	-
3-5-X	15	-	50	200	270	29	-	160	-		-
4A	8.7	-	100	35	41	20	<2.9	49		2.55	-
4B	110	-	2510	320	550	200	3.1	560	-	-	-
4-1-B	120	5.4	440	320	600	-	1.4	-	5.5*	43	-
4-1-A	26	<0.25	400	68	59	-	<1.2	-	13	26	-
4-1-A (Dup)	22	<0.25	220	67	91	-	<1.2	-	5.3	30	-
4-2-B	76	3.7	1500	360	740	-	<1.2	-	2.9	52	-
4-2-A	20	0.52	85	88	91	-	2.2	-	2.7	160	-
4-3-B	67	4.1	6300	380	780	-	<1.1	-	2.2	24	-
4-4-B	160	1.5	670	180	460	-	<1.2	-	13	170	-
4-4-A	28	<0.25	58	300	110	-	<1.8	-	410	1200	-
4-5-X	32	-	310	290	410	44	-	140	-	-	ND
4-5-Y	7.1	-	21	68	68	31	-	42	-	ND	-
4-5-Z	7.2	-	15	38	120	27	-	50	-	ND	-
4-5-Z (Dup)	7.9	-	21	56	120	32	-	820	-	-	-
4-6-X	10	-	68	110	270	29	-	180	-	-	ND
4-6-Y	14	-	19	140	390	24	-	120	-	0.9	-
4-6-Z	9.2	-	17	23	<25	<12	-	160	-	2.6	-
4-7-X	68	-	790	810	200	120	-	440		ND	-
4-7-Y	14	-	130	65	150	39	-	250	-	33.2	-
4-7-Z	7.9	-	37	18	<25	13	-	160	-	23.1	-
GA-1-B†	24	2.4	8600	160	810	-	<1.5	-	4.1	67	-
GA-1-A	30*	<0.25	3200*	95*	460*	-	4.6*	-	<4.1	28	-
GA-2-B	22	1.1	9400	130	310	-	<1.4	-	7.3	42	-
GA-2-A	16	0.37	470	57	84	-	3.0	-	<2.7	200	
GA-3-B	17	1.7	5900	160	340	-	<1.4	-	<2.2	60	
GA-3-A	34	0.55	110	110	150	-	3.9	-	<2.2	-	

*Represents the average of two analyses on same sample.
**Conducted by Chyun Associates
†GA = Grassy Area near sample point 4.

Key: "X" and "B" denote surface samples.
"A" denotes 12" - 36" homogenized sample.
"Y" denotes 18" grab sample.
"Z" denotes 36" grab sample.

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TABLE A-3

ANALYSES FOR SELECTED EP TOXICITY EXTRACTABLE METALS

AT&T, KEARNY WORKS

Sampling Location	Cadmium Total µg/g	Cadmium EP tox mg/ℓ	Chromium Total µg/g	Chromium EP tox mg/ℓ	Lead Total µg/g	Lead EP Tox mg/ℓ
1-1 B	0.33	<0.050	74	<0.050	250	<0.10
1-2-B	<0.25	<0.050	150	<0.050	600	<0.10
1-3-B	0.52	<0.050	68	<0.050	290	<0.10
1-4-B	0.37	<0.050	64	<0.050	190	<0.10
1-5-B	0.74	<0.050	76	<0.050	190	<0.10
1-6-B	<0.25	*<0.050	320	*<0.050	630	*<0.10
1-7-B	0.38	<0.050	160	<0.050	590	<0.10
1-8-B	0.36	<0.050	75	<0.050	220	<0.10
1-8-B (Dup)	0.42	<0.050	60	<0.050	200	<0.10
4-1-B	5.4	<0.050	440	<0.050	600	<0.10
4-2-B	3.7	<0.050	1500	<0.050	740	<0.10
4-3-B	4.1	<0.050	6300	0.060	780	<0.10
4-4-B	1.5	<0.050	670	<0.050	460	<0.10
4-1-A	<0.25	<0.050	400	<0.050	59	<0.10
4-1-A (Dup)	<0.25	<0.050	220	<0.050	91	<0.10
4-2-A	0.52	<0.050	85	<0.050	91	<0.10
4-3-A	<0.25	<0.050	16	<0.050	52	<0.10
4-4-A	<0.25	<0.050	58	<0.050	110	<0.10
GA-1-B	2.4	<0.050	8600	0.13	810	<0.10
GA-2-B	1.1	<0.050	9400	<0.050	310	<0.10
GA 3 B	1.7	<0.050	5900	<0.050	340	<0.10
GA-4-B	2.6	<0.050	8700	<0.050	590	<0.10
GA-5-B	2.5	<0.050	13000	<0.050	330	<0.10
GA-6-B	5.1	*<0.050	5600	*<0.050	400	*<0.10

*Represents the average of two analyses of the same sample.
"B" denotes surface sample.
"A" denotes 12"-36" homogenized subsurface sample.

TABLE A-3 (Continued)

Sampling Location	Cadmium Total µg/g	Cadmium EP tox mg/ℓ	Chromium Total µg/g	Chromium EP tox mg/ℓ	Lead Total µg/g	Lead EP Tox mg/ℓ
6-4-B	3.3	<0.050	320	<0.050	940	<0.10
6-4-B (Dup)	3.1	<0.050	290	<0.050	860	<0.10
6-5-B	20.0	<0.050	96	<0.050	740	<0.10
6-6-B	0.35	<0.050	130	<0.050	400	<0.10
6-7-B	<0.25	<0.050	74	<0.050	520	<0.10
6-1-A	<0.25	<0.050	24	<0.050	200	<0.10
6-2-A	<0.25	<0.050	22	<0.050	81	<0.10
6-3-A	0.64	<0.050	54	<0.050	210	<0.10
6-4-A	2.2	<0.050	16	<0.050	150	<0.10
6-5-A	8.1	<0.050	19	<0.050	100	<0.10
6-6-A	<0.25	<0.050	26	<0.050	170	<0.10
6-7-A	<0.25	<0.050	15	<0.050	56	<0.10
6-CB-1**	11*	<0.050	*400	<0.050	*880	<0.10
6-CB-2	6.3	<0.050	340	<0.050	800	<0.10
6-CB-3	11.0	<0.050	860	<0.050	1300	<0.10
6-CB-4	1.8	*<0.050	300	*<0.050	1100	*<0.10
6-CB-5	4.8	<0.050	160	<0.050	830	<0.10
6-CB-6	1.8	<0.050	90	<0.050	790	<0.10
6-CB-7	2.7	<0.050	160	<0.050	520	0.10
6-CB-8	3.8	<0.050	100	<0.050	1000	<0.10
6-CB-9**	4.6	<0.050	250	<0.050	1200	<0.10
6-CB-10	6.2	<0.050	160	<0.050	890	<0.10
6-CB-11	9.4	<0.050	330	<0.050	2000	<0.10
6-CB-12	4.0	<0.050	810	<0.050	850	<0.10
6-CB-13	4.1	<0.050	35	<0.050	730	<0.10
6-CB-14	19.0	<0.050	230	<0.050	1300	<0.10
14-1-A	<0.25	<0.050	38	<0.050	110	<0.10

*Represents the average of two analyses of the same sample.
"B" denotes surface sample.
"A" denotes 12"-36" homogenized subsurface sample.

TABLE A-3 (Continued)

Sampling Location	Cadmium Total µg/g	Cadmium EP tox µg/l	Chromium Total µg/g	Chromium EP tox µg/l	Lead Total µg/g	Lead EP Tox µg/l	Copper Total µg/g	Copper EP Tox µg/l	Zinc Total µg/g	Zinc EP Tox µg/l
37-2-B	3.2	<0.050	370	<0.050	250	<0.10	210			
37-3-B	4.5	<0.050	5000	<0.050	340	<0.10	150			
37-4-B	1.3	<0.050	1900	<0.050	200	<0.10	130			
37-5-B	2.1	<0.050	480	<0.050	160	0.11	80			
37-6-B	2.9	<0.050	290	<0.050	1400	0.11	120			
37-7-B	2.6	<0.050	75	<0.050	150	0.10	220			
37-8-B	3.0	<0.050	1500	<0.050	<240	0.13	140			
37-9-B	2.2	<0.050	1300	<0.050	280	<0.10	320			
37-10-B	3.4	<0.050	6300	<0.050	290	<0.10	180			
37-10-B (Dup)	<13	<0.050	5500	<0.10	330	<0.10	600			
37-11-B	2.6	<0.050	540	<0.050	240	0.10	200			
37-12-B	4.8	<0.050	3000	<0.050	330	0.10	270			
37-13-B	2.9	<0.050	470	<0.050	300	<0.10	230			
37-13-B (Dup)	1.6	<0.050	2700	<0.050	440	0.10	240			
38 B	-	-	5060	0.090	230	0.08	250	1.21	290	44.8
38-1-B	3.3	<0.050	1500	<0.050	270	<0.10	350			
38-2-B	0.7	<0.050	6300	<0.050	210	<0.10	110			
38-3-B	1.7	<0.050	7400	<0.050	340	<0.10	170			
38-4-B	1.7	<0.050	8300	<0.050	240	<0.10	530			
38-5-B	1.6*	<0.50	*3000	<0.050	*240	<0.10	* 220			
38-6-B	1.2	<0.050	8200	<0.050	280	<0.10	130			
38-7-B	0.5*	* <0.050	*8200	*<0.050	*140	*<0.10	* 90			
38-8-B	0.83	<0.050	9300	<0.050	300	<0.10	130			
38-9-B	1.9	<0.050	1100	<0.050	340	<0.10	180			
38-10-B	2.6	<0.050	5600	0.050	320	<0.10	190			
38-11-B	4.1	<0.050	680	<0.050	400	<0.10	1100			

*Represents the average of two analyses of the same sample.
"B" denotes surface sample.
"A" denotes 12"-36" homogenized subsurface sample.

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TABLE A-3 (Continued)

Sampling Location	Cadmium Total µg/g	Cadmium EP tox µg/l	Chromium Total µg/g	Chromium EP tox µg/l	Lead Total µg/g	Lead EP Tox µg/l	Copper Total µg/g	Copper EP Tox µg/l	Zinc Total µg/g	Zinc EP Tox µg/l
16-7-A	2.4	<0.050	9000	<0.050	170	<0.10	140			
16-8-A	<0.25	<0.050	1300	<0.050	120	<0.10	120			
16-CB-1**	1.7	<0.050	260	<0.050	240	<0.10				
16-CB-2	2.4	<0.050	310	<0.050	730	0.13	600			
26-1-B	<0.25	<0.050	34	<0.050	48	<0.10	48			
26-2-B	<0.25	<0.050	32	<0.050	70	<0.10	38			
26-3-B	<0.25	<0.050	30	<0.050	44	<0.10	30			
26-4-B	<0.25	<0.050	27	<0.050	49	<0.10	32			
26-5-B	<0.25	<0.050	33	<0.050	53	<0.10	35			
26-6-B	<1.8	<0.050	37	<0.050	290	<0.10	110			
26-7-B	<0.25	<0.050	27	<0.050	57	<0.10	33			
26-8-B	<0.25	<0.050	19	<0.050	25	<0.10	20			
26-8-B (Dup)	<0.25	<0.050	23	<0.050	30	<0.10	23			
33 B	-	-	6500	<0.050	380	<0.05	150	0.04	720	3.04
33-1-B	1.0	<0.50	5300	<0.050	880	<0.10	490			
33-2-B	1.5	<0.050	11000	<0.050	1400	<0.10	730			
33-3-B	1.6	<0.050	8500	<0.050	1100	<0.10	620			
33-4-B	2.0	<0.050	9900	<0.050	1000	<0.10	740			
33-5-B	2.8	<0.050	19000	<0.050	1900	<0.10	1200			
33-6-B	1.6	<0.050	4800	<0.050	900	<0.10	430			
33-7-B	1.2	<0.050	8600	<0.050	1100	<0.10	620			
33-8-B	1.8*	*<0.050	*11000	*<0.050	*1400	*<0.10	*750			
35-CB	<5.5	<0.050	140	<0.050	820	<0.10	1000			
36-CB	<4.3	<0.050	43	<0.050	260	<0.10	150			
37 B	-	-	5830	0.19	190	0.28	210	0.09	800	1.79
37-1-B	2.6*	<0.050	*310	<0.050	*220	<0.10	220			

*Represents the average of two analyses of the same sample.
**CB denotes Catch basin sample.
"B" denotes surface sample.
"A" denotes 12"-36" homogenized subsurface sample.

TABLE A-4

RESULTS OF PRIORITY POLLUTANT VOLATILES SCANS OF SAMPLES FROM LOCATIONS SELECTED BY HEADSPACE TESTS

July 16-18, 1984

(All values are expressed in ppm)

Location[a]	1A	2A	3A	4A	5B	5A	6B	6A	8A	10A
Headspace	22	560	420	2.8	3	34	6	30	34	5.2
Volatiles										
chloroethane		ND[b]							ND	
vinyl chloride										
methylene chloride			0.018	0.017		0.034		26.0		0.011
1,1-dichloroethylene						0.007		0.76		
1,1-dichloroethane						0.006		0.59		
trans-1,2-dichloroethylene				0.042	0.014	0.061	0.114	25.0		
chloroform				0.038	0.019	0.020	0.057	0.32		
1,2-dichloroethane										
1,1,1-trichloroethane			0.020	0.013	0.019	0.143	0.020	18.0		0.005
carbon tetrachloride				0.010						
bromodichloromethane								0.38		
trans-1,3-dichloropropene										
trichloroethylene				1.830	0.297	2.96	0.690			
benzene	0.033							0.18		
tetrachloroethene				0.60	0.115	1.50	0.815			
toluene								39.0		
chlorobenzene										
ethylbenzene								3.2		
Total Volatiles	0.033	ND	0.038	2.55	0.46	4.73	1.696	113.43	ND	0.016

Note: For ease of interpretation of data on this table no value is shown on table where the analyte was not detected in the samples. Values shown are only those which were detected in the sample.

[a] A designates a subsurface sample, B designates a surface sample, 15C was taken at 12-14'.

[b] No detectable volatile priority pollutants in sample.

TABLE A 4 (Continued)

Location	13A	14A	15B	15A	15C	16A	20A	21B	22B	27B	28B	28A	29B
Headspace	13.8	1.5	7	240	30	10	34	100	110	10	10	30	80
Volatiles													
chloroethane											ND	ND	
vinyl chloride						0.61							
methylene chloride			0.060		0.015		0.009	0.031	0.013	0.030			0.011
1,1-dichloroethylene						0.71							
1,1-dichloroethane													
trans-1,2-dichloroethylene		0.034				39.0							
chloroform			0.009				0.006		0.018	0.005			
1,2-dichloroethane						193.0							
1,1,1-trichloroethane	0.014	0.020	0.009		0.007	0.37	0.008	0.008					0.014
carbon tetrachloride													
bromodichloromethane													
trans-1,3-dichloropropene													
trichloroethylene	0.009	0.012			0.018		0.007						
benzene				1.6		0.54							
tetrachloroethene			0.010										
toluene				0.65									
chlorobenzene						0.27							
ethylbenzene						0.20							
Total Volatiles	0.023	0.066	0.088	2.25	0.040	234.7	0.030	0.039	0.031	0.035	ND	ND	0.025

TABLE A-4 (Continued)

Location	30A	31B	35B	37B	38B
Headspace	36	110	15	25	10
Volatiles	ND				
chloroethane			0.008		
vinyl chloride					
methylene chloride		0.007	0.105	0.125	0.098
1,1-dichloroethylene					
1,1-dichloroethane					
trans-1,2-dichloroethylene					
chloroform			0.007	0.012	0.022
1,2-dichloroethane			0.006		
1,1,1-trichloroethane		0.018	0.027	0.006	0.007
carbon tetrachloride					
bromodichloromethane					
trans-1,3-dichloropropene					
trichloroethylene			0.015	0.005	0.005
benzene					
tetrachloroethene					
toluene					
chlorobenzene					
ethylbenzene					
Total Volatiles	ND	0.025	0.168	0.148	0.132

TABLE A-5

SUMMARY OF ANALYTICAL RESULTS FOR VOLATILE ORGANICS IN SOIL[a]

Client: AT&T

Sampling Location: Kearny, NJ

Sampling Dates: 6-8 February 1985

Compound	ERT #/Field Identification													
	25552 4-5-X[b]	25559 4-7-X	25564 6-8-X	25584 5-8-Y[c]	25585 5-9-Z[d]	25586 6-8-Z	25587 15-5-Z	25588 4-7-Y	25589 4-7-Z	25590 17-2-X	25591 16-10-X	25592 16-9-X	25593 4-6-Y	25594 4-6-Z
Chloromethane	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Bromomethane	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Vinyl Chloride	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Chloroethane	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Methylene Chloride	<2	<2	<2	<0.6	4.6	<3	<0.6	2.3	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Trichlorofluoro- methane	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
1,1-Dichloroethylene	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
1,1-Dichloroethane	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Trans-1,2-Dichloro- ethylene	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Chloroform	<2	<2	<2	<0.6	<2	<3	<0.6	3.9	3.2	<0.6	<0.6	<0.6	<0.6	<0.6
1,2-Dichloroethane	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
1,1,1-Trichloroethane	<5	<5	<5	<3	5.5	9.5	<3	23	16	<3	<3	<3	<3	<3
Carbon Tetrachloride	<2	<2	<2	<0.6	<2	280	<0.6	<2	<2	<0.6	<0.6	0.62	<0.6	<0.6
Bromodichloromethane	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
1,2-Dichloro-propane	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Trans-1,3-Dichloro- propene	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Trichloroethylene	<2	<2	<2	<0.6	7.4	230	<0.6	<2	<2	<0.6	<0.6	1.0	<0.6	<0.6
Dibromochloro-methane	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6

[a]Results reported in µg/g (parts-per-million)
[b]X - Sample taken at surface
[c]Y - Sample taken at 18 inches
[d]Z - Sample taken at 36 inches

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TABLE A-5 (Continued)

SUMMARY OF ANALYTICAL RESULTS FOR VOLATILE

ORGANICS IN SOIL[a]

Client: AT&T

Sampling Location: Kearny, NJ

Sampling Dates: 6-8 February 1985

	ERT #/Field Identification											
Compound	25595 15-6-Y	25596 5-9-Y	25597 4-5-Z	25598 15-5-Y	25599 5-8-Z	25600 6-8-Y	25601 15-6-Z	25602 5-8-Z Dup	25603 15-7-Z	35604 15-8-Y	25605 15-8-Z	25606 15-7-Y
Chloromethane	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Bromomethane	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Vinyl Chloride	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Chloroethane	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Methylene Chloride	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Trichlorofluoromethane	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
1,1-Dichloroethylene	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
1,1-Dichloroethane	<0.6	<0.6	<0.6	<0.6	<0.5	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Trans-1,2-Dichloroethylene	<0.6	3.2	<0.6	<0.6	<0.6	75	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Chloroform	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
1,2-Dichloroethane	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
1,1,1-Trichloroethane	<3	<3	<3	<3	<3	<5	<3	<5	<3	<3	<3	<3
Carbon Tetrachloride	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Bromodichloromethane	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
1,2-Dichloro-propane	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Trans-1,3-Dichloropropene	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Trichloroethylene	<0.6	12	<0.6	<0.6	5.0	46	<0.6	4.4	<0.6	<0.6	<0.6	<0.6
Dibromochloro-methane	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6

[a]Results reported in μg/g (parts-per-million)

TABLE A-5 (Continued)

SUMMARY OF ANALYTICAL RESULTS FOR VOLATILE ORGANICS IN SOIL[a]

Client: AT&T

Sampling Location: Kearny, NJ

Sampling Dates: 6-8 February 1985

	ERT #/Field Identification											
Compound	25595 15-6-Y	25596 5-9-Y	25597 4-5-Z	25598 15-5-Y	25599 5-8-Z	25600 6-8-Y	25601 15-6-Z	25602 5-8-Z Dup	25603 15-7-Z	35604 15-8-Y	25605 15-8-Z	25606 15-7-Y
Cis-1,3-Dichloropropene	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
1,1,2-Trichloroethane	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Benzene	<0.6	<0.6	<0.6	<0.6	1.1	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
2,-Chloroethylvinyl ether	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Bromoform	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Tetrachloroethene	<0.6	1.0	<0.6	<0.6	<0.6	30	<0.6	<2	<0.6	<0.6	<0.6	<0.6
1,1,2,2-Tetrachloroethane	<0.6	<0.6	<0.6	<0.6	0.63	2.1	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Toluene	<0.6	0.75	<0.6	<0.6	3.4	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Chlorobenzene	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	<0.6	<0.6
Ethylbenzene	<0.6	<0.6	<0.6	<0.6	<0.6	<2	<0.6	<2	<0.6	<0.6	1.1	<0.6

[a]Results reported in μg/g (parts-per-million).

TABLE A-5 (Continued)

SUMMARY OF ANALYTICAL RESULTS FOR VOLATILE

ORGANICS IN SOIL[a]

Client: AT&T

Sampling Location: Kearny, NJ

Sampling Dates: 6-8 February 1985

Compound	ERT #/Field Identification											
	25607 4-5-Y	25608 17-1-X	25708 4-6-X	25709 5-8-X	25711 16-9-Y	25713 16-9-Z	25715 16-10-Y	25717 16-10-Z	25721 17-1-Z	35723 17-2-Y	25725 17-2-Z	25726 17-2-Z Dup
Chloromethane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Bromomethane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Vinyl Chloride	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Chloroethane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Methylene Chloride	<0.6	<0.6	<0.6	2.5	0.72	0.70	0.78	<0.6	0.90	<0.6	<0.6	0.69
Trichlorofluoro-methane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
1,1-Dichloroethylene	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
1,1-Dichloroethane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Trans-1,2-Dichloro-ethylene	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Chloroform	<0.6	<0.6	<0.6	2.4	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	0.69	<0.6
1,2-Dichloroethane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
1,1,1-Trichloroethane	<3	<3	<3	12	<3	<3	<3	<3	<3	3.5	6.5	5.5
Carbon Tetrachloride	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	0.65	<0.6	8.2	1.0	0.94
Bromodichloromethane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
1,2-Dichloro-propane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Trans-1,3-Dichloro-propene	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Trichloroethylene	<0.6	<0.6	<0.6	3.0	<0.6	<0.6	<0.6	14	<0.6	<0.6	0.63	<0.6
Dibromochloro-methane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6

[a]Results reported in μg/g (parts per million)

TABLE A-5 (Continued)

SUMMARY OF ANALYTICAL RESULTS FOR VOLATILE

ORGANICS IN SOIL[a]

Client: AT&T

Sampling Location: Kearny, NJ

Sampling Dates: 6-8 February 1985

	ERT #/Field Identification													
Compound	25552 4-5-X	25559 4-7-X	25564 6-8-X	25584 5-8-Y	25585 5-9-Z	25586 6-8-Z	25587 15-5-Z	25588 4-7-Y	25589 4-7-Z	25590 17-2-X	25591 16-10-X	25592 16-9-X	25593 4-6-Y	25594 4-6-Z
Cis-1,3-Dichloro- propene	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
1,1,2-Trichloro- ethane	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Benzene	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	0.87	1.4
2,-Chloroethyl- vinyl ether	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Bromoform	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Tetrachloroethene	<2	<2	<2	<0.6	12	150	<0.6	<2	<2	<3.6	<0.6	<0.6	<0.6	<0.6
1,1,2,2-Tetrachloro- ethane	<2	<2	<2	<0.6	<2	8.7	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Toluene	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	1.2
Chlorobenzene	<2	<2	<2	<0.6	<2	<3	<0.6	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.6
Ethylbenzene	<2	<2	<2	<0.6	4.0	<3	<0.6	4.0	3.9	<0.6	<0.6	<0.6	<0.6	<0.6

[a]Results reported in μg/g (parts-per-million).

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TABLE A-5 (Continued)

SUMMARY OF ANALYTICAL RESULTS FOR VOLATILE ORGANICS IN SOIL[a]

Client: AT&T

Sampling Location: Kearny, NJ

Sampling Dates: 6-8 February 1985

	ERT #/Field Identification											
	25607	25608	25708	25709	25711	25713	25715	25717	25721	35723	25725	25726
Compound	4-5-Y	17-1-X	4-6-X	5-8-X	16-9-Y	16-9-Z	16-10-Y	16-10-Z	17-1-Z	17-2-Y	17-2-Z	17-2-Z Dup
Cis-1,3-Dichloropropene	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
1,1,2-Trichloroethane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Benzene	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
2,-Chloroethylvinyl ether	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Bromoform	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Tetrachloroethene	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	1.5	<0.6	63	27	19
1,1,2,2-Tetrachloroethane	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	6.0	1.6	<0.6
Toluene	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	2.3	1.9	<0.6	2.6	1.8
Chlorobenzene	<0.6	<0.6	<0.6	<2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Ethylbenzene	<0.6	<0.6	<0.6	2.9	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	0.68	<0.6

[a]Results reported in µg/g (parts-per-million).

TABLE A-6

TOTAL PCB's IN SAMPLES COLLECTED

OCTOBER 4-10, 1984,

AT&T, KEARNY WORKS

Sampling Location	Total PCB's µg/g
21-1-B	9.4
21-2-B	4.1
21-2-B (Dup)	3.4
21-3-B	32.3
21-1-A	2.3
21-2-A	1.6
21-3-A	<1.0
21-6-A	2.5
22-1-B	6.5
22-2-B	2.6
22-3-B	3.1
22-4-B	2.6
22-5-B	4.5
22-6-B[1]	6.2
22-7-B	2.7
22-7-B (Dup)	4.4
22-8-B	16.5
22-9-B[1]	15.0
22-1-A	19.8
22-2-A	2.9
22-3-A	9.6
22-4-A	5.8
22-5-A	5.4
22-6-A	<10.0[2]
22-9-A	<10.0[2]

[1] These samples were ~10' from the concrete vaults.

[2] High detection limits for these samples due to interference.

"B" denotes surface sample

"A" denotes 12" - 36" homogenized subsurface sample.

TABLE A-7
TOTAL PCB's IN SAMPLES COLLECTED
May 2-10, 1985
AT&T Kearny Works

Sampling Location		Total PCB's ug/g
11-4	0-2'	9.7
	2-4'	4.9
	4-6'	1.5
	4-6'(Dup)	<1.0
11-5	0-2'	42.
	4-6'	7.9
11-6	0-2'	<1.0
	0-2'(Dup)	1.5
	2-4'	<1.0
	4-6'	<1.0
11-7	1-2'	1.0
	2-4'	<3.0
11-8	4-6'	<1.0
	6-8'	<1.0
11-9	0-6"	82
	0-6"(Dup)	68
	2-3'	<5.0
	4-5'	<5.0
	6-7'	<5.0
	8-9'	<5.0
11-10	0-6"	85.
11-11	0-6"	1300.
	2-3'	<5.0
	4-5'	<5.0
	6-7'	6.5
	8-9'	<5.0
	10-11'	<5.0
11-12	0-6"	660.
11-13	0-2'	<1.0
	4-6'	<1.0
11-14	0-2'	1.0
	4-6'	<1.0

TABLE A-7 (Continued)
TOTAL PCB's IN SAMPLES COLLECTED
May 2-10, 1985
AT&T Kearny Works

Sampling Location		Total PCB's ug/g
11-15	0-2'	<1.0
	2-4'	<1.0
	6-8'	<1.0
11-16	2-4'	<1.0
	6-8'	<1.0
11-17	4-6'	<1.0
	6-8'	<1.0
11-18	0-2'	160.
	2-4'	2.7
	4-6'	5.5
11-19	0-6"	3400.
	3-4'	<5.0
	5-6'	<5.0
	7-8'	6.2
11-20	0-6"	430.
	3-4'	<5.0
	5-6'	16.0
	9-10'	<5.0
	11-12'	<5.0
11-21	0-2'	33,000
	2-3'	89,000
	2-4'	17,000
	4-6'	10,500
	7-8'	1650
	9-10'	690
	11-12'	<5.0
11-22	2-3'	37
	4-5'	48
	7-8'	<5.0
	9-10'	<5.0
	11-12'	<5.0

TABLE A-8

SUMMARY OF ANALYTICAL RESULTS

SULFIDE REACTIVITY

AT&T Kearny, NJ

February, 1985

Sample Number	S=concentration (mg/l)
1-15	BDL
6-8-Z	BDL
4-6-Z	BDL
16-10-Z	BDL
33-10	BDL

BDL - Below Detection Limit: 1.0 mg/l soil extract.

TABLE A-9

SUMMARY OF ANALYTICAL RESULTS

CYANIDE REACTIVITY

AT&T Kearny, NJ

October, 1984; February, 1985

SAMPLE NUMBER	CN^- Concentration (mg/l)
1-9-X	BDL
4-4-A	0.016

BDL - Below Detection Limit: 0.0061 mg/l soil extract.

TABLE A-10

SUMMARY OF ANALYTICAL RESULTS

ARSENIC EP TOXICITY

AT&T Kearny, NJ

July, 1984; October, 1984

Sample Number	As Concentration (mg/1)
13B	0.008
26B	0.009
37-10-B	0.006
37-10-B (duplicate)	BDL
6A-6-B	0.006
5-4-B	1.6
5-3-A	4.1
5-4-A	2.0
6-1-A	BDL
1-2-B	0.006
1-6-B	BDL

BDL - Below Detection Limit: 0.005 mg/1 soil extract.

TABLE A-11

RESULTS OF ANALYSES FOR PRIORITY POLLUTANT

METALS, CYANIDE AND pH, JULY 1984.

(all values are expressed in ppm)

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A
Arsenic	10.	120	17	29	4.8	21	8.7	110	8.7	110	29	78	13
Antimony	<2.8	<2.7	<6.2	<6.2	<2.8	<2.5	<2.9	3.1	<2.7	<2.6	<6.2	<6.2	<3.0
Barium	<140.	170	<120	210	<140	270	<140	250	<140	250	<120	120	<150
Beryllium	<14.	<14	<12	<12	<14	<12	<14	<14	<14	<13	<12	<12	<15
Cadmium	<14.	<14	<12	<12	<14	<12	<14	<14	<14	<13	<12	<12	<15
Chromium	<28.	160	28	240	<28	110	100	2510	49	850	52	65	<30
Copper	73	200	110	310	82	200	35	320	100	1110	90	330	24
Lead	45.	380	82	460	85	390	41	550	54	520	120	500	46
Mercury	0.022	0.39	0.86	3.1	0.20	0.47	1.5	1.2	0.81	1.8	0.58	0.61	0.40
Nickel	20.	49	<25	62	20	68	20	200	46	110	<25	92	18
Selenium	<2.8	4.1	<2.5	<2.5	<2.8	4.6	<2.9	3.1	<2.7	4.4	<2.5	<2.5	<3.0
Silver	<14	<14	<12	<12	<14	<12	<14	29	<14	<13	<12	<12	<15
Thallium	<140.	<140	<125	<125	<140	<120	<140	<140	<140	<130	<120	<120	<150
Zinc	42.	140	160	200	54	180	49	560	520	1270	920	110	55
Cyanide	-	-	<12	-	-	-	-	-	-	-	54	-	-
pH	5.0	5.6	5.1	4.4	4.2	3.8	5.8	7.1	6.2	7.4	5.5	5.8	6.8

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2767D

TABLE A-11 (Continued)

	7A DUPLICATE	7B	7B DUPLICATE	7C	8A	8B	9A	9B	10A	10B	11A	12A
Arsenic	18	37	30	-	7.6	11	-	-	-	-	-	-
Antimony	<2.3	<2.8	<2.5	-	3.4	<2.4	-	-	-		-	-
Barium	130	<140	130	-	240	<120	-	-	-		-	-
Beryllium	<12	<14	<12	-	<14	<12	-	-	-	-	-	-
Cadmium	<12	<14	<13	-	<14	<12	-	-	-	-	-	-
Chromium	<24	72	110	-	<28	36	-	-	-	-	-	-
Copper	68	210	120	-	90	340	-	-	-	-	-	-
Lead	120	450	710	-	360	300	-	-	-		-	-
Mercury	0.47	0.52	0.12	-	0.35	0.53	-	-	-	-	-	-
Nickel	26	32	23	-	28	50	-	-	-	-	-	-
Selenium	<2.3	5.4	<2.5	-	<2.8	3.6	-	-	-	-	-	-
Silver	<11	<14	<12	-	<14	<12	-	-	-	-	-	-
Thallium	<120	<140	<120	-	<140	<120	-	-	-	-	-	-
Zinc	100	100	91	-	87	270	-	-	-	-	-	-
Cyanide	-	-	-	-	-	-	-	-	-	-	-	-
pH	7.8	6.9	7.1	6.9	6.9	7.1	6.6	7.4	6.9	4.9	7.7	7.0

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2767D

TABLE A-11 (Continued)

	13A	13B	14A	14B	15A	15B	15C	16A	16B	17A	17B	18A	18B
Arsenic	9.8	16	23	10	-	-	-	12.	20	4.2	20	-	-
Antimony	<6.2	<6.2	<3.4	4.5	-		-	<2.7	<2.5	<6.2	<6.2	-	-
Barium	<120	<120	510	<140	-		-	910	<140	<120	<120	-	-
Beryllium	<12	<12	<17	<14	-	-	-	<14	<14	<12	<12	-	-
Cadmium	<12	<12	<17	<14	-	-	-	<14	<13	<12	<12	-	-
Chromium	<25	120	180	70	-	-	-	1160	900	<25	270	-	-
Copper	52	60	240	68	-	-	-	220	240	88	400	-	-
Lead	28	120	1200	75	-		-	380	1670	<25	600	-	-
Mercury	0.22	0.76	0.69	0.28	-	-	-	0.85	0.67	0.13	0.70	-	-
Nickel	<25	40	54	80	-	-	-	170	76	<25	92	-	-
Selenium	<2.5	<2.5	<3.4	4.8	-		-	26	<2.5	<2.5	<2.5	-	-
Silver	<12	<12	<17	<14	-	-	-	<14	<12	<12	<12	-	-
Thallium	<120	<120	<170	<140	-	-	-	<140	<130	<120	<120	-	-
Zinc	30	110	120	110	-	-	-	390	<140	48	680	-	-
Cyanide	<12	<12	<12	<12	-	-	-	-	-	-	-	-	-
pH	6.2	6.0	8.5	6.7	7.4	6.8	7.1	7.2	7.5	8.2	7.1	8.5	9.8

TABLE A-11 (Continued)

	19A	19A DUPLICATE	19B	20A	20B	20B DUPLICATE	21A	21B	22A	22B	23B
Arsenic	8.9	6.2	3.7	17	15.	12	10	26	10	12	7.3
Antimony	<2.6	<2.6	<2.1	<2.3	<2.6	<2.9	<6.2	<6.2	<6.2	<6.2	<2.5
Barium	<130	<130	100	120	150	<140	<120	160	<120	200	350
Beryllium	<13	<130	<10	<11	<13	<14	<12	<12	<12	<12	<12
Cadmium	<13	<13	<10	<12	<12	<14	<12	<12	<12	<12	<12
Chromium	<27	<28	<21	28	47	32	50	68	52	50	30
Copper	84	68	28	70	130	83	55	160	55	78	78
Lead	54	55	<21	190	150	120	250	700	590	410	45
Mercury	0.36	0.60	0.18	0.56	0.61	0.056	0.10	0.14	0.21	0.12	0.45
Nickel	22	29	16	84	45	43	<25	65	<25	38	30
Selenium	<2.6	<3.4	<2.1	<2.3	<2.6	<2.9	<2.5	<2.5	<2.5	<2.5	<2.5
Silver	<13	<13	<10	<12	<13	<14	<12	<12	<12	<12	<12
Thallium	<130	<130	<100	<120	<130	<140	<120	<120	<120	<120	<120
Zinc	73	120	45	160	230	180	130	420	550	350	170
Cyanide	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
pH	3.9	3.8	7.9	7.0	7.2	7.6	8.8	7.4	9.8	7.6	8.1

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TABLE A-11 (Continued)

	24B	25A	25B	26A	26B	27A	27B	28A	28B	29A	29B	30A
Arsenic	6.2	5.0	15	8.1	6.9	5.8	8.6	7.5	18	12.	19.	8.0
Antimony	2.0	<6.2	<6.2	<2.9	<2.8	<2.7	<2.6	<6.2	<6.2	<2.7	<3.0	<3.0
Barium	120	<120	<120	<140	<140	<140	<130	190	<120	<140	1940	<150
Beryllium	<9.3	<12	<12	<14	<14	<14	<13	<12	<12	<14	<15	<15
Cadmium	<9.3	<12	<12	<14	<14	<14	<13	<12	<12	<14	<15	<15
Chromium	<19	<25	40	1580	<28	<28	<26	25	32	<28	56	<30
Copper	26	150	42	170	61	58	42	52	22	150	130	45
Lead	<19	88	30	230	<28	47	36	52	<25	200	390	130
Mercury	0.028	0.44	0.42	0.81	0.16	0.35	0.15	1.2	0.052	1.0	0.71	0.48
Nickel	20	<25	25	126	28	22	31	<25	<25	28	51	24
Selenium	<1.9	<2.5	<2.5	<2.9	<2.8	<2.7	<2.6	<2.5	<2.5	<2.7	<3.0	<3.0
Silver	<9.5	<12	<12	<14	<14	<14	<13	<12	<12	<14	<15	<15
Thallium	<93	<120	<120	<140	<140	<140	<130	<120	<120	<140	<150	<150
Zinc	56	750	100	1370	77	94	100	140	45	170	1220	86
Cyanide	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
pH	8 1	7.8	9.0	10.1	7.6	9.1	7.5	10.4	8.8	7.2	7.3	9.6

853890233

TABLE A 11 (Continued)

	30B	31A	31B	32A	32B	33A	33B	34A	34B	35B	36B
Arsenic	4.4	9.5	14	9.6	7.5	16	85	6.0	8.6	31	5.6
Antimony	<2.5	<6.2	<6.2	<2.8	<2.0	<6.2	<6.2	<2.7	<2.8	<4.9	1.9
Barium	150	120	730	<140	<100	<120	400	<140	<140	280	110
Beryllium	<12	<12	<12	<14	<10	<12	<12	<14	<14	<14	<9.4
Cadmium	<12	<12	<12	<14	<10	<12	<12	<14	<14	<24	<9.4
Chromium	<25	72	55	59	60	110	6500	27	290	220	80
Copper	49	60	230	280	58	65	150	36	180	1370	520
Lead	<25	42	510	150	74	98	380	<27	250	1140	380
Mercury	0.033	0.63	0.53	0.98	0.18	0.58	1.1	0.13	0.66	1.4	0.23
Nickel	32	38	45	53	35	48	510	19	110	110	73
Selenium	<2.5	<2.5	<2.5	17	<2.0	<2.5	<2.5	<2.7	<2.8	<4.9	<1.9
Silver	<12	<12	<12	<14	<10	<12	<12	<14	<14	<24	<9.4
Thallium	<140	<120	<120	<140	<100	<120	<120	<140	<140	<240	<94
Zinc	69	160	1050	120	110	100	720	60	490	1220	920
Cyanide	<12	<12	-	-	-	-	-	-	-	-	-
pH	7.6	9.9	8.9	7.1	7.6	7.8	7.4	7.3	7.1	6.0	7.4

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2767D

TABLE A-11 (Continued)

	37A	37A DUPLICATE	37B	37B DUPLICATE	38A	38B	39A	39B
Arsenic	10.	4.9	9.3	6.3	<2.5	13	4.8	12
Antimony	<3.1	<3.1	<2.5	<2.9	<2.6	<2.8	<2.3	<2.7
Barium	<160	<150	<120	190	<130	<140	<120	<160
Beryllium	<16	<15	<12	<14	<13	<14	<12	<14
Cadmium	<16	<15	<12	<14	<13	<14	<11	<14
Chromium	84	74	5830	<29	26	5060	<23	220
Copper	78	46	210	43	13	250	13	130
Lead	110	99	190	66	<26	230	<26	280
Mercury	0.27	0.27	0.42	0.081	0.26	1.5	0.26	0.82
Nickel	22	22	290	23	16	230	18	36
Selenium	<3.1	5.2	<2.5	<2.9	7.7	<2.8	<2.3	<2.7
Silver	<14	<15	<12	<14	<13	<14	<11	<14
Thallium	<160	<150	<120	<140	<130	<140	<120	<140
Zinc	110	86	800	150	32	290	96	230
Cyanide	-	-	-	-	-	-	-	-
pH	7.4	8.3	8.1	8.1	7.4	7.6	7.4	6.9

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TABLE A-12

RESULTS OF ANALYSES FROM FIFTH SAMPLING ROUND

CONDUCTED MAY 2-10, 1985

Sampling Location	Arsenic µg/g	Chromium µg/g	Copper µg/g	Lead µg/g	Nickel µg/g	Zinc µg/g	Total Cyanide µg/g	VOA µg/g
4-8-Y	-	-	-	-	-	-	-	3.0
4-8-Z	-	-	-	-	-	-	-	<0.7
4-9-Y	-	-	-	-	-	-	-	13.4
4-9-Z	-	-	-	-	-	-	-	4.0
4-10-Y	-	-	-	-	-	-	-	44.0
4-10-Z	-	-	-	-	-	-	-	<0.7
33-Y	27	2000	84	280	110	360	BDL	<0.7
33-Z	16	150	140	240	56	200	BDL	<0.7
33-9-Y	22	280	120	220	74	300	4.3	<0.7
33-9-Z	15	74	210	300	51	220	0.79	<0.7
33-10-Y	12	27,000	1,600	2,000	6,600	10,000	180	<0.7
33-10-Z	6.1	1,200	120	110	280	520	12	<0.7
33-11-Y	18	820	170	340	180	1,400	3.6	<0.7
33-11-Z	8.4	17	58	83	37	130	1.2	<0.7
33-12-Y	20	600	12,000	700	160	700	10	1.4
33-12-Z	5.6	22	67	BDL	29	62	BDL	<0.7

X = surface sample

Y = 18" grab sample

Z = 36" grab sample

BDL = Below Detection Limit

TABLE A-12

RESULTS OF ANALYSES FROM FIFTH SAMPLING ROUND

CONDUCTED MAY 2-10, 1985

Sampling Location	Arsenic μg/g	Chromium μg/g	Copper μg/g	Lead μg/g	Nickel μg/g	Zinc μg/g	Total Cyanide μg/g	VOA μg/g
33-13-Y	13	460	120	500	100	510	2.2	3.9
33-13-Z	2.3	13	BDL	BDL	BDL	BDL	BDL	<0.7
33-14-Y	50	62	200	440	42	750	BDL	4.2
33-14-Z	38	200	2300	1900	300	13,000	BDL	0.8
34-1-Y	22	46	94	200	34	290	4.1	1.8
34-1-Z	36	280	1800	1200	220	8600	2.7	<0.7
34-2-Y	8.2	240	130	220	92	460	8.8	<0.7
34-2-Z	15	180	290	420	82	690	BDL	<0.7
34-3-X	3.5	250	220	420	54	740	-	<0.7
34-3-Y	1.6	320	260	450	130	680	BDL	<0.7
34-3-Z	12	180	82	460	32	140	23	<0.7
34-4-Y	4.9	3900	210	150	1400	330	18	<0.7
34-4-Z	25	5100	610	270	1500	4100	57	<0.7
34-5-Y	6.3	19,000	1100	1200	4600	12,000	160	<0.7
34-5-Z	8.3	5800	430	440	1400	3500	61	<0.7
34-6-Y	7.1	2100	190	300	530	1400	9.3	<0.7
34-6-Z	4.4	650	210	420	240	1300	7.7	4.7

X = surface sample

Y = 18" grab sample

Z = 36" grab sample

BDL = Below Detection Limit

TABLE /

RESULTS OF ANALYSES FROM FIFTH SAMPLING ROUND

CONDUCTED MAY 2-10, 1985

Sampling Location	Arsenic μg/g	Chromium μg/g	Copper μg/g	Lead μg/g	Nickel μg/g	Zinc μg/g	Total Cyanide μg/g	VOA μg/g
34-7-X	11	160	86	94	68	210	8.4	<0.7
34-7-Y	11	88	85	100	52	310	16	<0.7
34-7-Z	5.2	BDL	24	BDL	20	150	21	<0.7
45-6-X	-	-	-	95	-	-	-	-
45-6-Y	-	-	-	390	-	-	-	-
45-6-Z	-	-	-	340	-	-	-	-
45-7-X	-	-	-	200	-	-	-	-
45-7-Y	-	-	-	230	-	-	-	-
45-7-Z	-	-	-	250	-	-	-	-
45-8-X	-	-	-	120	-	-	-	-
45-8-Y	-	-	-	120	-	-	-	-
45-8-Z	-	-	-	74	-	-	-	-
45-9-X	-	-	-	150	-	-	-	-
45-9-Y	-	-	-	81	-	-	-	-
45-9-Z	-	-	-	83	-	-	-	-

X = surface sample

Y = 18" grab sample

Z = 36" grab sample

853890238

TANK AND LOCATION DATA

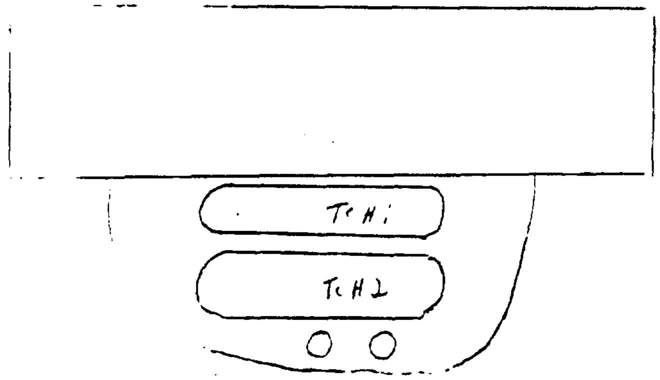
DATE ______________

______________ CITY ______________

______________ STATE ______________

WEATHER	TIME	TEMPERATURE	COMMENTS
[illegible]			
[illegible]			

AUTOMATIC



	PRODUCT/TANK NO										
BEFORE DELIVERY		Fill	Gauge	Fill	Gauge	Fill	Gauge	Fill	Gauge	Fill	Gauge
	LEVEL										
	GALLONS										
	WATER										
	TOP OF RISER										
	GRADE										
	DROP TUBE										
	CAPACITY [illegible]										
	DIAMETER, INCHES										
	MATERIAL										
	PUMP TYPE										
	TYPE OF COVER										
	AGE OF TANK										
	SIPHON										
	TANK OPENINGS										
	EXTRACTORS										
VAPOR RECOVERY	TYPE										
	VENT CONFIGURATION										
	P V VENT VALVE TYPE										

REPLACEMENT PARTS	PART #	DESCRIPTION	QUANTITY	PRICE

ADDITIONAL CHARGES (turnovers, overtime, etc.) ______________

*Data obtained from ☐ Station ☐ LL Charts ☐ Other ______________

EXHIBIT A-7

853890239

HUNTER ENVIRONMENTAL SERVICES, INC.
18 GREAT VALLEY PARKWAY SUITE 6
MALVERN PA 19355
215 296-7380 800 523 4370

leak lokator

TEST RESULTS

DATE OF TEST: AUGUST 30 1988

CUSTOMER: AT&T

NAME

ADDRESS: 100 CENTRAL AVE

CITY: KEARNY STATE: NJ

TEST RESULTS SUMMARY

NO.	SYSTEM PRODUCT	TANK SIZE GALLONS	DIAMETER	WATER INCHES	LEAK LOKATOR RESULTS* LEVEL INCHES	ALR GPH	CONCLUSION	RECOMMENDATIONS	
1	TANK #1	10,000	96	3 1/4"	139	-0.019	T		T T T
2	TANK #2	10,000	96	2"	137 110	-0.380 +0.036	L T		L T T

FINAL REPORT

PRODUCT LINES – HYDROSTATIC PRESSURE TEST RESULTS

NO.	SYSTEM PRODUCT	TYPE OF PUMP REMOTE	SUCTION	# APPLIED	MINUTES APPLIED	PRODUCT LOSS CC'S	PRODUCT LOSS GPH	CONCLUSION RESULT
1	TANK #1		WAYNE	N/A				
2	TANK #2		WAYNE	N/A				

NOTE: On suction ... NEVER ... more than 15 psi on any pump system

... OTHER REPRESENTATIVES PRESENT

DETAIL OF TEST RESULTS

NO.	PRODUCT		LEVEL	TIME		LEAK RATE CC DIV	CC MIN			CC MIN	CC MIN	GPH	
1	TANK #1		139	11:03	33 min	2.224	-3.313	-0.02	-7.16	-1.205	-0.019	N
2	TANK #2	1	137	13:24	30 min	2.242	+22.116	+0.003	+1.10	-23.915	-0.380	N
		2	110	14:45	30 min	2.105	+3.076	+0.052	+5.75	+2.283	+0.036	N

* LEVEL – INCHES FROM TANK BOTTOM TO TEST LEVEL
ALR – ABSOLUTE LEAK RATE: MEASURED LEAK RATE – TEMPERATURE COMPENSATION IN GALLONS PER HOUR
CONCLUSION – NFPA ... CRITERION OF .05 GPH IS USED TO CERTIFY TIGHTNESS

CERTIFICATION: This is to certify that the above described tank systems were tested, using the HUNTER ENVIRONMENTAL SERVICES, INC. LEAK LOKATOR according to all standard operating procedures. Those indicated as tight meet the criterion established by the National Fire Protection Association Pamphlet 329 for Precision Testing.

TEST CONDUCTED BY		CERTIFIED BY	
TEST VAN NO.	TANK TESTING SPECIALIST	SIGNATURE	DATE
LL-18	TANK TESTING SPECIALIST	NAME	TITLE

EXHIBIT A-7 Continued

796-3390
796-3391
796-3392

LOMBARDO EQUIPMENT CO.

Service Station Installation
and Maintenance

BUSHES LANE, P. O. BOX 62 ELMWOOD PARK, N. J. 07407

TO ERT CORP
696 VIRGINIA RD
CONCORD MASS, 01742

538

DATE BILLED 10/3/84

INVOICE NO 3511

TERMS: NET

YOUR ORDER No.

DESCRIPTION	AMOUN
LOCATION OF WORK: ERT CORP 100 CENTRAL AVE KEARNY, N.J.	
7/24 TESTED 3-10M TANKS. 2 GAS AND 1 DIESEL. 1 DIESEL TESTED TIGHT. 2 GAS WERE NOT TIGHT, BECAUSE OF LEAKS IN REMOTE FILLS. [illegible]	
TESTED 3 TANKS.	[illegible]
[illegible] TAX	[illegible]
TOTAL	[illegible]

RECEIVED
OCT 05 1984
ERT
ACCOUNTING DEPT.

EXHIBIT A-7 Continued

853890241

13

Excerpts from the Remedial Proposal for Contaminated Soil at Former Drum Storage Pad ECRA Case N0. 84025 dated February 1993.

- Establishes existence of soil contamination and potential discharge mechanisms.

AT&T

Kearny, New Jersey

ENSR

Remedial Proposal for Contaminated Soil at Former Drum Storage Pad ECRA Case No. 84025

ENSR Consulting and Engineering

February 1993

Document Number 0550-263-400(524)

853890244

ENSR

ENSR Consulting
and Engineering

Somerset Executive Square 1
One Executive Drive
Somerset, NJ 08873
(908) 560-7323
FAX (908) 560-1688

February 12, 1993

Mr Nicholas Capuano
Corporate Environmental Engineering
AT&T
Room B2162
131 Morristown Road
Basking Ridge, New Jersey 07920

Re: Cleanup Plan Implementation Schedule
Former AT&T Kearny Works, Kearny, New Jersey
ECRA Case No. 84025

Dear Nick:

Enclosed are four copies of the Remedial Proposal for Contaminated Soil at Former Drum Storage Pad and three copies of the Cleanup Plan Implementation Schedule and the Summary of Historical Data. An additional copy of all documents will be sent to Alan Chesler.

The Remedial Proposal has incorporated comments from you and Mr. Angelo Basile. Most significantly, Mr. Basile indicated that reclassification of the aquifer should be considered which could potentially result in less stringent soil cleanup standards.

The Implementation Schedule is presented in two figures. Figure 1 is a recapitulation of all past soil cleanup activities conducted pursuant to the ECRA program at Kearny. Figure 2 is a schedule for proposed future remediation in the area of the concrete pad. This is the same schedule shown in the Remedial Proposal.

If you have any questions or concerns regarding these materials, please call.

Sincerely,

Stephen Byrne

for Frank Myerski
Project Manager

FM/gk

cc: B. Duvel
S. Byrne
D. Hessemer

Reference No. (524)LETTER.FM

Enclosure

0550-263-400

853890245

AT&T

Kearny, New Jersey

Remedial Proposal for Contaminated Soil at Former Drum Storage Pad ECRA Case No. 84025

ENSR Consulting and Engineering

February 1993

Document Number 0550-263-400(524)

853890246

CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

ENSR Consulting and Engineering (ENSR) was retained by AT&T Technologies, Inc. (AT&T) to develop a proposal to remediate contaminated soil located in the Former Drum Storage Pad Area of the Former Kearny Works in Kearny, New Jersey. This proposal was prepared in response to the New Jersey Department of Environmental Protection and Energy's (NJDEPE) November 25, 1992 letter. This remediation plan was required in the November 25, 1992 letter in response to the soil investigation conducted by AT&T in July 1992.

Section 2.0 of this document provides a general overview of site conditions, including soil sampling results and previous soil and groundwater remediation activities. This section also includes contaminant isopleth maps from soil samples collected on July 22, 1992. Areas of constituent concentrations above NJDEPE proposed soil cleanup standards are overlayed onto the isopleth maps and form the basis for determining the known extent of soil contamination.

Regulations affecting remedial activities in New Jersey have recently undergone significant changes. For example, NJDEPE recently decided not to adopt the proposed soil cleanup standards specified in the February 3, 1992 New Jersey Register, and has instead decided to await the outcome of a recently proposed ECRA reform bill. In the absence of official standards, this remedial proposal has been based on the February 3, 1992 proposed standards. This can be considered a conservative approach for this site since the proposed cleanup standards are based upon soil overlying Class I and IIA aquifers. The shallow water bearing unit at the Kearny site has low yields and is not used as a potable water supply. Therefore, reclassification of the groundwater and the consequent impact on cleanup standards needs to be reevaluated. Section 3.0 presents additional discussion on the pertinent regulatory considerations for the proposed remedial alternative.

Based on regulatory, technical, and economic considerations, four remedial alternatives were evaluated as potential options to remediate the Former Drum Storage Pad Area soils. Section 4.0 provides the recommended remedial alternative and includes additional soil delineation sampling, post-excavation sampling, and permitting issues. Section 5.0 presents considerations which will be included in a site-specific health and safety plan.

A project schedule for implementing the proposed remedial activities is provided in Section 6.0.

2.0 SITE DESCRIPTION

2.1 Site Geology

The subsurface lithology in the vicinity of the Former Drum Storage Pad Area has been investigated by installing monitoring wells (DRAI, 1985) and well points, and conducting infiltration and aquifer characterization tests (ERT, 1985).

The soils at the site consist of unconsolidated deposits overlying the Brunswick Shale bedrock. Bedrock begins at a depth of 60 to 80 feet below land surface (bls). As shown on Figure 2-1, the overlying unconsolidated formations are, from shallow to deep: imported surficial fill, sandy silt, silt/clay, and interbedded sands and silts.

The surficial fill section consists of sand with some concrete, bricks, and cinders emplaced for general site grading purposes, and occurs throughout the site. In the vicinity of the Drum Storage Pad Area, the fill is 4 to 6 feet thick.

Beneath the fill is a generally 1- to 3-foot layer of sandy silt grading into organic silt. Observations made during a trench excavation near the pad indicated that silver grey sandy silt occupied the 6- to 8-foot depth interval. The fill-sandy silt contact of this unit is quite distinct. However, the lower boundary grades imperceptibly into the grey silt/clay.

2.2 Previous Remedial Activities

Two significant remedial activities have been conducted in the Former Drum Storage Pad Area, to fulfill requirements authorized by NJDEPE in the approved Amended Environmental Cleanup Plan (1985). First, in 1985, soil adjacent to the southern border of the concrete pad was excavated to a depth of approximately 3 feet (depth to groundwater). The excavation was then backfilled with clean fill (i.e., crushed quarry stone). This area is depicted in Figure 2-2. Second, due to groundwater contamination detected in five monitoring wells in the concrete pad area, a groundwater remediation system was designed by ENSR in 1985 and installed and operated beginning August 1986. After five years of operation, AT&T was authorized by NJDEPE in July 1991 to cease groundwater remediation activities, since contamination from the monitoring wells at the site declined substantially over time and stabilized.

Not true

2.3 Soil Characterization

To delineate the soil contamination in the Former Drum Storage Pad Area, a soil gas survey was conducted in June 1990. Based on the soil gas survey, four soil borings were advanced in August 1991 and soil samples were analyzed for priority pollutant volatile organic compounds (VOC) via GC/MS. Seventeen additional soil borings were advanced and soil samples were collected in July 1992. The locations of these soil gas survey points and soil sample locations are also shown on Figure 2-2. The numeric values indicated represent the concentration of total VOCs, in parts per million (ppm), from the soil gas survey.

A summary of soil sample results from the July 1992 sampling effort is provided by Table 2-1. All samples were analyzed for the following five targeted VOCs via GC/MS: trans-1,2-dichloroethylene, tetrachloroethylene, toluene, 1,1,1-trichloroethane, and trichloroethylene. These analytes were among those targeted in the June 1990 soil gas survey because they appeared at the highest concentrations most consistently in the groundwater during seven years of groundwater monitoring. Further, these five volatile compounds were the only VOCs detected above detection limits in the August 1991 soil sampling event. Sample number designations correspond to the sampling grid depicted on Figure 2-2.

NJDEPE has proposed three sets of cleanup standards for soil: residential surface soil, non-residential surface soil, and subsurface soil. These standards were proposed for Class I and IIA aquifers in the February 3, 1992 New Jersey Register. After one year, NJDEPE decided not to adopt the proposed standards but to continue to use them as guidelines. These guidelines, hereafter referred to as proposed standards, for the contaminants of concern in the Drum Storage Area are listed in Table 2-2.

Contaminant isopleth maps for four of the targeted compounds, at two depths, are presented in Figures 2-3 through 2-10. An isopleth map for toluene has not been included, due to the limited number of detected concentrations. Areas of soil contamination that exceed NJDEPE proposed cleanup levels are indicated on the isopleth maps by cross-hatching.

The isopleth maps indicate and differentiate between concentrations above proposed standards for residential and non-residential surface soils. Use of residential standards resulted in the addition of three sample locations over those above non-residential standards for tetrachloroethylene and trichloroethylene, and one location for 1,1,1-trichloroethane.

As shown on Figure 2-3, none of the surface soil samples exceeded the proposed non-residential or residential surface soil standard for trans-1,2-dichloroethylene (DCE). One sample location (E-7) exceeded the proposed subsurface soil standard for DCE (see Figure 2-4).

TABLE 2-1

Summary of Soil Sampling Results at Kearny
July 1992

Sample No.	Compound Detected (ppb)				
	trans-1,2 dichloroethene	tetrachloroethene	toluene	1,1,1-trichloroethane	trichloroethene
D5-C (12 - 18) inch increment	ND[a]	1,500	ND	ND	750
D5-F (30 - 36) inch increment	140 J[b]	2,700	ND	ND	1,600
D6-C (12 - 18) inch increment	14	160	ND	ND	13
D6-F (30 - 36) inch increment	ND	5.7	ND	ND	ND
D7-C (12 - 18) inch increment	26,000	29,000	ND	910 J	50,000
D7-F (30 - 36) inch increment	4,600	1,300	ND	290 J	830
E5-C (12 - 18) inch increment	590 J	32,000	ND	360 J	14,000
E5-F (30 - 36) inch increment	ND	6,600	ND	190 J	5,200
E6-B (6 - 12) inch increment[c]	500,000	5,500,000	48,000 J	520,000	130,000
E7-C (12 - 18) inch increment	110,000	4,900 J	ND	2,200 J	170,000
E7-E (30 - 36) inch increment	87,000	4,900 J	ND	1,800 J	130,000
E8-C (12 - 18) inch increment[d]	2.5 J	2.5 J	ND	ND	ND
E8-F (30 - 36) inch increment[e]	4.7 J	2.5 J	2.4 J	ND	2.7 J
E10-C (12 - 18) inch increment	ND	ND	ND	ND	ND
E10-F (30 - 36) inch increment	ND	ND	ND	ND	ND
E11-C (12 - 18) inch increment	2,400	13,000	ND	510 J	49,000
E11-F (30 - 36) inch increment	2,500	10,000	ND	350 J	42,000
F5-B (6 - 12) inch increment	710	2,000	ND	ND	8,600
F5-F (30 - 36) inch increment	2,500	5,800	ND	950 J	32,000
F6-C (12 - 18) inch increment	18,000	40,000	1,100 J	6,400	100,000
F6-E (24 - 30) inch increment	16,000	29,000	780 J	5,400	78,000
F7-B (6 - 12) inch increment	48,000	76,000	ND	2,400 J	70,000
F7-F (30 - 36) inch increment	85	85	1.3 J	5.3	44
F8-B (6 - 12) inch increment	810	1,700	ND	4,600	690
F8-F (30 - 36) inch increment	890	310 J	1,300	630	580 J
F8-H (30 - 36) inch increment[f]	4,400	1,400	4,600	3,000	3,100
F10-C (6 - 12) inch increment	160 J	300 J	ND	350 J	2,500

(524)-2-1.TAB 0550-236-400

TABLE 2-1

Summary of Soil Sampling Results at Kearny
July 1992

Sample No.	Compound Detected (ppb)				
	trans-1,2 dichloroethene	tetrachloroethene	toluene	1,1,1-trichloroethane	trichloroethene
F10-F (30 - 36) inch increment	6,400	2,800	ND	4,700	71,000
F11-F (30 - 36) inch increment[d]	ND	92,000	ND	ND	6,600
F12-C (12 - 18) inch increment	ND	580 J	ND	ND	4,700
F12-F (30 - 36) inch increment	590 J	5,000	ND	320 J	29,000
G11-E (12 - 18) inch increment	74	380	ND	11	240
G11-F (30 - 36) inch increment	890	5,200	ND	ND	2,600
Trip Blank[d]	ND	ND	ND	ND	ND
Field Blank[d]	ND	ND	ND	ND	ND

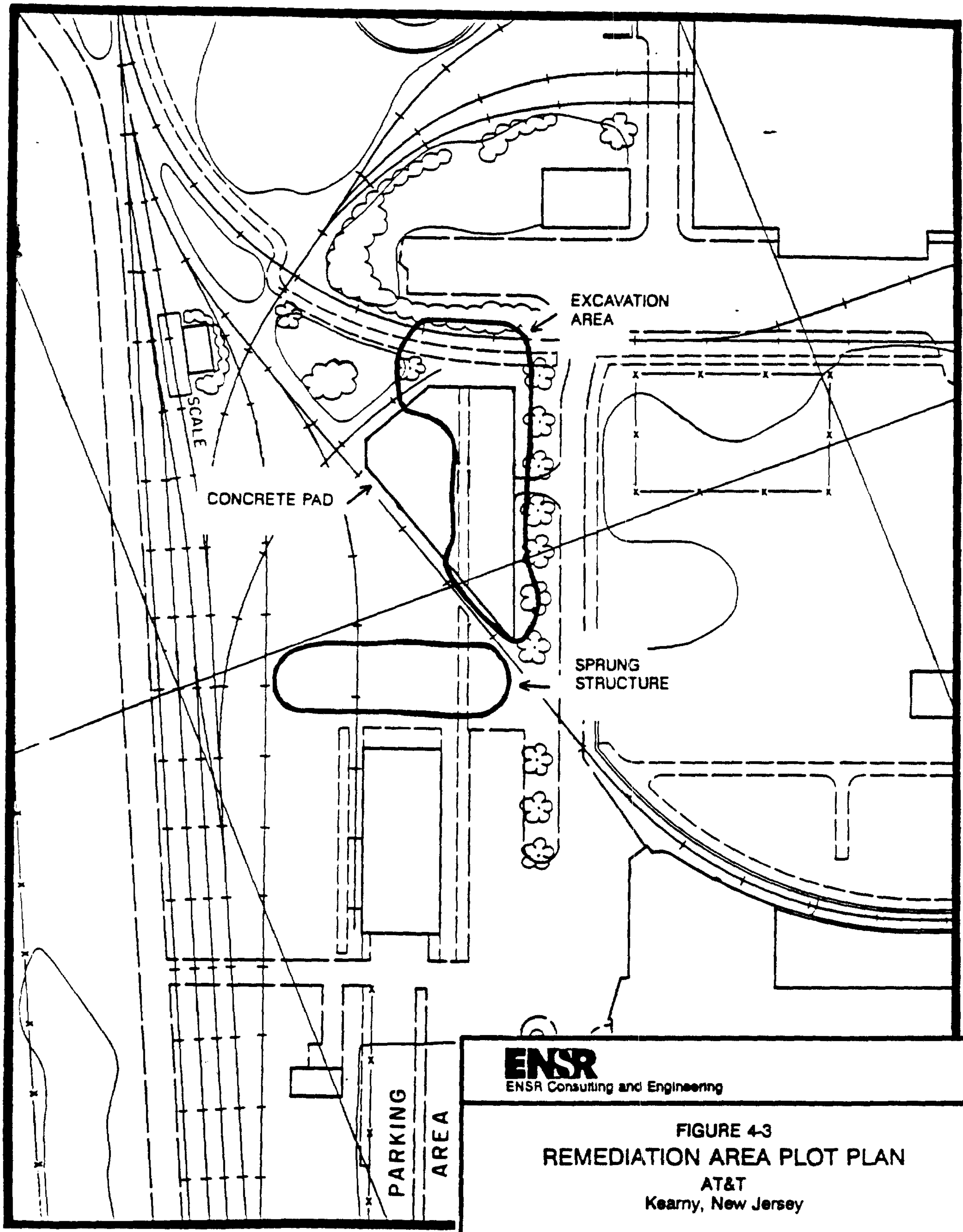
(a) Indicates no compounds were detected.
(b) Indicates result is less than the specified detection limit but greater than zero.
(c) This sample was analyzed for GC/MS volatiles plus a forward library search - other compounds detected included ethyl benzene (670,000 ug/kg) and total xylenes (4,500,000 ug/kg).
(d) This sample was analyzed for GC/MS volatiles plus a forward library search - no other compounds were detected.
(e) This sample was analyzed for GC/MS volatiles plus a forward library search - other compounds detected include: benzene (5.7 ug/kg), chloroethane (16 ug/kg), ethylbenzene (3.0 ug/kg), methylene chloride (4.7 ug/kg), and total xylenes (11 ug/kg).
(f) Field duplicate to sample number F8-F.

TABLE 2-2

NJDEPE Proposed Cleanup Standards for Contaminants of Concern in Drum Storage Area

	Surface[(a)(b)] Residential (ppm)	Surface Non-Residential (ppm)	Subsurface[(c)] (ppm)
Trans-1,2-Dichloroethylene	960	10,000	50
Tetrachloroethylene	9	37	1
Toluene	1,000	1,000	500
1,1,1-Trichloroethane	210	3,800	50
Trichloroethylene	23	100	1

(a) This assumes that the shallow water bearing unit at the Kearny site is appropriately classified as a Class IIA aquifer. Further, these proposed standards were not adopted and are not expected to be adopted in the near future.
(b) Surface is defined as 0 - 2 feet interval.
(c) Subsurface is defined as 2 feet to groundwater interval. Note, groundwater depth is approximately 3 feet in the Drum Storage Area.



ENSR
ENSR Consulting and Engineering

FIGURE 4-3
REMEDIATION AREA PLOT PLAN
AT&T
Kearny, New Jersey

DRAWN:	DATE: February 5, 1993	PROJECT NO.:	REV:
FILE NO.:	CHECKED:	0550-263-400	0

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Figure 2-5 shows that surface soil concentrations of tetrachloroethylene (PCE) above the proposed non-residential cleanup standard (37 ppm) are limited to the north and west sides of the concrete pad area. One sample in this area (E-6) contained 5,500 ppm of PCE. These results correspond to field observations made during the sampling effort, which indicated a strong solvent odor during the installation of borings in this portion of the pad area. The areal extent of surface soils above the residential cleanup standard is slightly larger, primarily in the northwest corner of the pad and at a small location on the east side of the pad. As shown on Figure 2-6, all but three of the subsurface soil samples exceeded the proposed subsurface soil cleanup standards for PCE.

The surface soil and subsurface soil isopleth maps for 1,1,1-trichloroethane (TCA) are presented in Figures 2-7 and 2-8. Only one of the soil samples (E-6) exceeded the proposed residential surface soil cleanup standard for TCA. Non-residential surface cleanup standards and the subsurface standard for TCA were not exceeded.

Figure 2-9 shows that three surface soil samples exceeded the proposed non-residential cleanup standard for trichloroethene (TCE). The area exceeding the residential cleanup standard is slightly larger. Most of the subsurface samples exceeded the proposed cleanup standards for TCE (see Figure 2-10).

Figure 2-11 shows the approximate areas in the Former Drum Storage Pad Area that exceed NJDEPE proposed cleanup standards. Note that this area corresponds to soil samples above subsurface standards. Since the subsurface standards are more stringent for the contaminant of concern, the use of residential or non-residential surface standards has no effect on the area requiring remediation. In this case, the subsurface soil standards apply from the surface down to the water table and will be used to determine the extent of soil requiring remediation. Soil located beneath the southern portion of the concrete pad has not been observed to exceed the proposed cleanup standards.

FORMER AT&T KEARNY WORKS

SUMMARY PRESENTATION OF HISTORICAL DATA

Background

During 1984 and 1985 AT&T conducted an ECRA investigation of potential soil and groundwater contamination at the former Kearny Works in Kearny, New Jersey. This work, which was conducted in accordance with work plans approved by the NJDEPE, involved the sampling and analysis of soils from across the entire site. Sampling was conducted using both hand augers and hollow-stem augers (during installation of monitoring wells). Based on the results of this sampling, in July 1985, NJDEPE approved an Amended Environmental Cleanup Plan (AECP) which specified the excavation and off-site disposal of contaminated soils from various areas around the site. The excavations were backfilled with clean fill meeting the cleanup criteria specified by NJDEPE. The general areas of excavation are shown in the attached Figure 1 (see pocket) from the AECP.

As part of the excavation, most of the soils in the areas where samples were taken were removed from the site. However, samples from "clean" areas remained on site. Also, a limited number of confirmatory samples were taken as part of the excavation. Consequently, these sample data are available.

On June 26, 1987, NJDEPE submitted a letter to AT&T stating that the soil cleanup addressed by the AECP was approved as complete. At that time, NJDEPE stated that the only area requiring additional remediation was the groundwater in the area of the former drum storage pad. A copy of the June 26 letter is provided in Appendix A.

In 1991, additional soil sampling was conducted in the vicinity of the concrete pad shown as the boxed area on Figure 2 (see pocket).

Data Tables

Historical site data are presented in this document in two sections. Section 1 contains a summary of analytical data from **excavated areas**. For each sample location within an excavated area (see Figure 1), data have been tabulated for the deepest sample collected, unless samples were collected deeper than the base of the excavation. Data for samples collected below the base of the excavation are presented in Section 2.

The data tables presented in Section 2 contain sample results from **unexcavated areas** (including samples below excavated areas) and confirmatory sampling. These data are divided into three subsections:

- Pre-cleanup delineation sampling - samples collected in 1984 and 1985 for preparation of the AECP.
- Soil boring samples associated with installation of monitoring wells.
- Soil samples collected in the vicinity of the concrete pad in 1991.

Data presented on the tables contained in Section 2 have been compared to residential and non-residential, surface and subsurface standards. These standards were proposed by NJDEPE on February 3, 1992. A copy of the NJDEPE proposal is provided in Appendix B.

The NJDEPE has recently announced that it will not adopt the proposed soil cleanup standards. However, it is our understanding that at this time NJDEPE will continue to use a modified version of the proposed standards as guidelines. For purposes of this document, the standards proposed in February 1992 have been used as the basis for comparison of the data.

The cleanup standards as proposed by NJDEPE did not include subsurface standards for metals and various other parameters. Therefore, no comparison of subsurface metals data was made.

In general, in situations where the soil sample interval included soils both above and below the two foot depth (which distinguishes surface soil from subsurface soil), the data were compared to surface soil standards. An exception to this categorization was made in the case of volatile organics. For volatile organic compounds, the proposed subsurface standards are more stringent than the surface standards. Therefore, volatile organic sample intervals containing both surface and subsurface soil were compared to subsurface standards.

Each sample presented in Section 1 and in the first subsection of Section 2 has been numbered according to the area from which it was collected. For example, sample numbers 1A, 1-2-A, and 1-9-X would all represent samples collected in Area 1. The excavated areas shown on Figure 1 are identified by the area number.

For data in both Section 1 and Section 2, values followed by a "U" qualifier represent parameters that were not detected. For example, a value of 5U indicates that the parameter was not detected at a detection limit of 5 ppm. Blank spaces indicate that no data were available for the associated parameter. Detected values are followed by an indication of whether the concentration was above, below, or equal to the associated proposed standard. All values are presented in ppm.

Data Summary

Figure 2 (see pocket) has been prepared as a summary of data contained in Section 2. This figure shows sample locations where measured analytical data exceed the proposed cleanup standards.

Summary of Data for Excavated Areas
Data in ppm

Sample ID:		1-1-B	1-2-B	1-3-B	1-4-B	1-5-B	1-6-B	
Sample Depth (in.):		0	0	0	0	0	0	
Metals								
Arsenic	2	200	530	110	59	70	700	As
Cadmium	1 / 180	0.33	0.25U	0.52	0.37	0.74	0.25U	
Chromium	10 / 500	74	150	68	64	76	320	
Copper	600	240	220	180	150	140	250	
Lead	100 / 1600	250	600	290	190	190	630	
Selenium	.3 / 380	3	1.4U	1.4U	1.2U	1.2U	1.3U	
Miscellaneous Parameters								
Cyanide		2.6						

Sample ID:	1-7-B	1-8-B	1-8-B	1-10-X	1-11-X	1-12-X	
Sample Depth (in.):	0	0	0 (DUP)	0	0	0	
Metals							
Arsenic	* 510	110	110	140	42	18	As
Cadmium	0.38	0.36	0.42				
Chromium	160	75	60	* 1500	160	250	305
Copper	280	150	250	200	111	160	
Lead	* 590	220	200	680	300	380	395
Nickel				170	61	35	
Selenium	1.4U	1.3U	1.2U				
Zinc				560	200	92	

Sample ID:	1-13-X	1-14-X	1-15-X	1-17-X	1-18-X	
Sample Depth (in.):	0	0	0	0	0	
Metals						
Arsenic	* 24	15	66	51	23	As
Chromium	* 45	200	1000	1100	170	Cr see 419
Copper	97	120	560	620	110	
Lead	* 270	310	780	790	510	
Nickel	23	77	77	74	41	
Zinc	90	380	240	260	94	

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	2-1-X	2-2-X	2-2-X	2-3-X	2-4-X
Sample Depth (in.):	0	0	0 (DUP)	0	0
Metals					
Arsenic	* 16	46	45	22	26
Chromium	* 220	660	620	180	190
Copper	130	600	600	580	270
Lead	* 180	730	760	530	330
Nickel	31	92	100	240	70
Zinc	77	380	440	1200	120

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	3-1-X	3-2-X	3-3-X	3-4-X	3-5-X
Sample Depth (in.):	0	0	0	0	0
Metals					
Arsenic	* 23	21	22	6.7	15
Chromium	* 120	58	280	1400	50
Copper	270	230	220	140	200
Lead	610	430	300	130	270
Nickel	100	100	120	190	29
Zinc	170	96	380	240	160

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	4A	4-5-Z	4-6-Z	4-7-Z	
Sample Depth (in.):	12-36	36	36	36	
Volatile Organics					
Chloromethane		0.6U	0.6U	2U	
Bromomethane		0.6U	0.6U	2U	
Vinyl Chloride		0.6U	0.6U	2U	
Chloroethane		0.6U	0.6U	2U	
Methylene Chloride	0.017	0.6U	0.6U	2U	10
Trichlorofluoromethane		0.6U	0.6U	2U	
1,1-Dichloroethylene		0.6U	0.6U	2U	
1,1-Dichloroethane		0.6U	0.6U	2U	
Trans-1,2-dichloroethylene	0.042	0.6U	0.6U	2U	
Chloroform	0.038	0.6U	0.6U	3.2	* 50
1,2-Dichloroethane		0.6U	0.6U	2U	
1,1,1-Trichloroethane	0.013	3U	3U	16	* 50
Carbon Tetrachloride	0.01	0.6U	0.6U	2U	1
Bromodichloromethane		0.6U	0.6U	2U	
1,1-Dichloropropane		0.6U	0.6U	2U	
Trans-1,3-dichloropropene		0.6U	0.6U	2U	
Trichloroethylene	1.83	0.6U	0.6U	2U	
Dibromochloromethane		0.6U	0.6U	2U	
Cis-1,3-dichloropropene		0.6U	0.6U	2U	
1,1,2-Trichloroethane		0.6U	0.6U	2U	
Benzene		0.6U	1.4	2U	* 1
1-Chloroethyl-vinyl ether		0.6U	0.6U	2U	
Bromoform		0.6U	0.6U	2U	
Tetrachloroethene	0.6	0.6U	0.6U	2U	
1,1,2,2-Tetrachloroethane		0.6U	0.6U	2U	
Toluene		0.6U	1.2	2U	500
Chlorobenzene		0.6U	0.6U	2U	
Ethylbenzene		0.6U	0.6U	3.9	* 100

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Summary of Data for Excavated Areas
Data in ppm

Sample ID: Sample Depth (in.):	4A 12-36	4-1-A 12-36	4-1-A 12-36 (DUP)	4-2-A 12-36	4-3-B 0	4-4-A 12-36
Metals						
Antimony	2.9U					
Arsenic	8.7	26	22	20	67	28
Barium	140U					
Beryllium	14U					
Cadmium		0.25U	0.25U	0.52	4.1	0.25U
Chromium	100	400	220	85	6300	58
Copper	35	68	67	88	380	300
Lead	41	59	91	91	780	110
Mercury	1.5					
Nickel	20					
Selenium	2.9U	1.2U	1.2U	2.2	1.1U	1.8U
Silver	14U					
Thallium	140U					
Zinc	49					
Miscellaneous Parameters						
Cyanide		13	5.3	2.7	2.2	410

Sample ID: Sample Depth (in.):	4-5-Z 36	4-5-Z 36 (DUP)	4-6-Z 36	4-7-Z 36
Metals				
Arsenic	7.2	7.9	9.2	7.9
Chromium	15	21	17	37
Copper	38	56	23	18
Lead	120	120	0.25U	25U
Nickel	27	32	12U	13
Zinc	50	820	160	160

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Summary of Data for Excavated Areas
Data in ppm

Sample ID:	GA-1-A	GA-2-A	GA-3-A	GA-4-A	GA-5-B	GA-5-B
Sample Depth (in.):	12-36	12-36	12-36	12-36	0	0 (DUP)
Metals						
Arsenic	30	16	34	42	19	27
Cadmium	0.25U	0.37	0.55	0.5	2.5	2.6
Chromium	3200	470	110	860	13000	8000
Copper	95	57	110	89	180	190
Lead	460	84	150	160	330	400
Selenium	4.6	3	3.9	2.6	1.4U	1.5U
Miscellaneous Parameters						
Cyanide	4.1U	2.7U	2.2U	2.2	2.4	10

Sample ID:	GA-6-A	GA-7-A
Sample Depth (in.):	12-36	12-36
Metals		
Arsenic	8.5	21
Cadmium	0.25U	0.92U
Chromium	140	440
Copper	36	74
Lead	47	130
Selenium	2.7	7.1
Miscellaneous Parameters		
Cyanide	13	12

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	5A	5-8-Z	5-8-Z	5-9-Z	
Sample Depth (in.):	12-36	36	36 (DUP)	36	
Volatile Organics					
Chloromethane		0.6U	2U	2U	
Bromomethane		0.6U	2U	2U	
Vinyl Chloride		0.6U	2U	2U	
Chloroethane		0.6U	2U	2U	
Methylene Chloride	0.034	0.6U	2U	4.6	
Trichlorofluoromethane		0.6U	2U	2U	
1,1-Dichloroethylene	0.007	0.6U	2U	2U	
1,1-Dichloroethane	0.006	0.6U	2U	2U	
Trans-1,2-dichloroethylene	0.061	0.6U	2U	2U	
Chloroform	0.02	0.6U	2U	2U	
1,2-Dichloroethane		0.6U	2U	2U	
1,1,1-Trichloroethane	0.143	3U	5U	5.5	*
Carbon Tetrachloride		0.6U	2U	2U	
Bromodichloromethane		0.6U	2U	2U	
1,1-Dichloropropane		0.6U	2U	2U	
Trans-1,3-dichloropropene		0.6U	2U	2U	
Trichloroethylene	2.96	5	4.4	7.4	* 1 ppm STD
Dibromochloromethane		0.6U	2U	2U	
Cis-1,3-dichloropropene		0.6U	2U	2U	
1,1,2-Trichloroethane		0.6U	2U	2U	
Benzene		1.1	2U	2U	
1-Chloroethyl-vinyl ether		0.6U	2U	2U	
Bromoform		0.6U	2U	2U	
Tetrachloroethene	1.5	0.6U	2U	12	* 1 ppm
1,1,2,2-Tetrachloroethane		0.63	2U	2U	
Toluene		3.4	2U	2U	
Chlorobenzene		0.6U	2U	2U	
Ethylbenzene		0.6U	2U	4	100

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	5A	5-1-A	5-2-A	5-3-A	5-4-A	5-5-A
Sample Depth (in.):	12-36	12-36	12-36	12-36	12-36	12-36
Metals						
Antimony	2.7U					
Arsenic	8.7	13	130	1200	590	13
Barium	140U					
Beryllium	14U					
Cadmium		0.25U	0.25U	0.37	0.36	0.25U
Chromium	49	19	21	14	25	18
Copper	100	39	43	99	71	68
Lead	54	83	150	640	280	110
Mercury	0.81					
Nickel	46					
Selenium	2.7U	1.4U	1.8U	7.3	1.4U	1.5U
Silver	14U					
Thallium	140U					
Zinc	520					
Miscellaneous Parameters						
Cyanide			110	12	2.3U	2U

Sample ID:	5-6-A	5-7-A	5-8-Z	5-9-Z
Sample Depth (in.):	12-36	12-36	36	36
Metals				
Arsenic	28	200	33	7.7
Cadmium	0.25U	0.25U		
Chromium	19	580	17	13
Copper	54	36	45	38
Lead	38	33	25U	25U
Nickel			28	15
Selenium	1.6U	1.4U		
Zinc			470	130
Miscellaneous Parameters				
Cyanide	2.2U	2.1U		

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Summary of Data for Excavated Areas
Data in ppm

Sample ID:	6A	6-8-Z
Sample Depth (in.):	12-36	36
Volatile Organics		
Chloromethane		3U
Bromomethane		3U
Vinyl Chloride		3U
Chloroethane		3U
Methylene Chloride	26	3U
Trichlorofluoromethane		3U
1,1-Dichloroethylene	0.76	3U
1,1-Dichloroethane	0.59	3U
Trans-1,2-dichloroethylene	25	3U
Chloroform	0.32	3U
1,2-Dichloroethane		3U
1,1,1-Trichloroethane	18	9.5
Carbon Tetrachloride		280
Bromodichloromethane	0.38	3U
1,1-Dichloropropane		3U
Trans-1,3-dichloropropene		3U
Trichloroethylene		230
Dibromochloromethane		3U
Cis-1,3-dichloropropene		3U
1,1,2-Trichloroethane		3U
Benzene	0.18	3U
1-Chloroethyl-vinyl ether		3U
Bromoform		3U
Tetrachloroethene		150
1,1,2,2-Tetrachloroethane		8.7
Toluene	39	3U
Chlorobenzene		3U
Ethylbenzene	3.2	3U

Summary of Data for Excavated Area
Data in ppm

Sample ID:		6A	6-1-A	6-2-A	6-3-A	6-4-A	6-5-A
Sample Depth (in.):		12-36	12-36	12-36	12-36	12-36	12-36
Metals							
Antimony	14	6.2U					
Arsenic	2	29	120	20	28	11	7.2
Barium	70	120U					
Beryllium	1	12U					
Cadmium	1/100		0.25U	0.25U	0.64	2.2	8.1
Chromium	10/600	52	24	22	54	16	19
Copper	600	90	98	84	170	320	120
Lead	100/600	120	200	81	210	150	100
Mercury	14	0.58					
Nickel	[illegible]	25U					
Selenium	-	2.5U	1.8	1.6U	1.1U	1.6U	1.3U
Silver	110	12U					
Thallium	2	120U					
Zinc		920					
Miscellaneous Parameters							
Cyanide		54	2.6U	2.8U	1.8	2U	1.7U

Sample ID:	6-6-A	6-7-A	6-8-Z
Sample Depth (in.):	12-36	12-36	36
Metals			
Arsenic	35	12	27
Cadmium	0.25U	0.25U	
Chromium	26	15	17
Copper	52	32	42
Lead	170	56	25U
Nickel			34
Selenium	1.4U	1.4U	
Zinc			420
Miscellaneous Parameters			
Cyanide	1.3U	1.9U	

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Summary of Data for Excavated Areas
Data in ppm

Sample ID:	7-1-X	7-2-X
Sample Depth (in.):	0	0
Metals		
Arsenic	47	34
Chromium	250	
Copper		190
Lead	540	180

Sample ID:	8A	8-5-Z
Sample Depth (in.):	12-36	36
Metals		
Antimony	3.4	
Arsenic	7.6	
Barium	240	
Beryllium	14U	
Cadmium	0.25U	
Chromium	28U	
Copper	90	450
Lead	360	150
Mercury	0.35	
Nickel	28	
Selenium	2.8U	
Silver	14U	
Thallium	140U	
Zinc	87	

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	11A	11-2-A	11-3-A	11-4	11-4	11-10
Sample Depth (in.):	12-36	12-36	12-36	48-72	48-72 (DUP)	0-6
Miscellaneous Paramaters						
PCBs				1.5	1U	85
TPHC	5500	10300	11400		–	

Sample ID:	11-11	11-18	11-19	11-20	11-21
Sample Depth (in.):	120-132	48-72	84-96	132-144	132-144
Miscellaneous Paramaters					
PCBs	5U	5.5	6.2	5U	5U

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	14-1-A	14-2-A	14-3-A	14-4-A	14-5-A	14-6-A
Sample Depth (in.):	12-36	12-36	12-36	12-36	12-36	12-36
Metals						
Arsenic	35	17	15	8.4	5.8	14
Cadmium	0.25U	0.35	0.5	2	0.28	0.25U
Chromium	38	27	34	38	25	40
Copper	87	88	45	79	53	53
Lead	110	93	160	110	130	80
Selenium	1.3U	1.3U	1.4U	1.3U	1.3U	1.3U
Miscellaneous Paramaters						
TPHC	5U	42	26	56	5U	5U

Sample ID:	14-7-A	14-9-A
Sample Depth (in.):	12-36	12-36
Metals		
Arsenic	23	16
Cadmium	0.25U	0.38
Chromium	19	36
Copper	77	58
Lead	190	150
Selenium	1.3U	1.3U
Miscellaneous Paramaters		
TPHC	5U	180

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	15A	15-5-Z	15-6-Z	15-7-Z	15-8-Z
Sample Depth (in.):	12-36	36	36	36	36
Volatile Organics					
Chloromethane		0.6U	0.6U	0.6U	0.6U
Bromomethane		0.6U	0.6U	0.6U	0.6U
Vinyl Chloride		0.6U	0.6U	0.6U	0.6U
Chloroethane		0.6U	0.6U	0.6U	0.6U
Methylene Chloride		0.6U	0.6U	0.6U	0.6U
Trichlorofluoromethane		0.6U	0.6U	0.6U	0.6U
1,1-Dichloroethylene		0.6U	0.6U	0.6U	0.6U
1,1-Dichloroethane		0.6U	0.6U	0.6U	0.6U
Trans-1,2-dichloroethylene		0.6U	0.6U	0.6U	0.6U
Chloroform		0.6U	0.6U	0.6U	0.6U
1,2-Dichloroethane		0.6U	0.6U	0.6U	0.6U
1,1,1-Trichloroethane		3U	3U	3U	3U
Carbon Tetrachloride		0.6U	0.6U	0.6U	0.6U
Bromodichloromethane		0.6U	0.6U	0.6U	0.6U
1,1-Dichloropropane		0.6U	0.6U	0.6U	0.6U
Trans-1,3-dichloropropene		0.6U	0.6U	0.6U	0.6U
Trichloroethylene		0.6U	0.6U	0.6U	0.6U
Dibromochloromethane		0.6U	0.6U	0.6U	0.6U
Cis-1,3-dichloropropene		0.6U	0.6U	0.6U	0.6U
1,1,2-Trichloroethane		0.6U	0.6U	0.6U	0.6U
Benzene	1.6	0.6U	0.6U	0.6U	0.6U
1-Chloroethyl-vinyl ether		0.6U	0.6U	0.6U	0.6U
Bromoform		0.6U	0.6U	0.6U	0.6U
Tetrachloroethene		0.6U	0.6U	0.6U	0.6U
1,1,2,2-Tetrachloroethane		0.6U	0.6U	0.6U	0.6U
Toluene	0.65	0.6U	0.6U	0.6U	0.6U
Chlorobenzene		0.6U	0.6U	0.6U	0.6U
Ethylbenzene		0.6U	0.6U	0.6U	1.1

Sample ID:	15A	15-1-A	15-2-A	15-3-A	15-5-Z
Sample Depth (in.):	12-36	12-36	12-36	12-36	36
Miscellaneous Paramaters					
TPHC	110	36	11	30	8200

Sample ID:	15-6-Z	15-7-Z	15-8-Z
Sample Depth (in.):	36	36	36
Miscellaneous Paramaters			
TPHC	1100	100	290

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	16A	16-9-Z	16-10-Z
Sample Depth (in.):	12-36	36	36
Volatile Organics			
Chloromethane		0.6U	0.6U
Bromomethane		0.6U	0.6U
Vinyl Chloride	0.61	0.6U	0.6U
Chloroethane		0.6U	0.6U
Methylene Chloride		0.7	0.6U
Trichlorofluoromethane		0.6U	0.6U
1,1-Dichloroethylene	0.71	0.6U	0.6U
1,1-Dichloroethane		0.6U	0.6U
Trans-1,2-dichloroethylene	39	0.6U	0.6U
Chloroform		0.6U	0.6U
1,2-Dichloroethane	* 193	0.6U	0.6U
1,1,1-Trichloroethane	0.37	3U	3U
Carbon Tetrachloride		0.6U	0.65
Bromodichloromethane		0.6U	0.6U
1,1-Dichloropropane		0.6U	0.6U
Trans-1,3-dichloropropene		0.6U	0.6U
Trichloroethylene		0.6U	14
Dibromochloromethane		0.6U	0.6U
Cis-1,3-dichloropropene		0.6U	0.6U
1,1,2-Trichloroethane		0.6U	0.6U
Benzene	0.54	0.6U	0.6U
1-Chloroethyl-vinyl ether		0.6U	0.6U
Bromoform		0.6U	0.6U
Tetrachloroethene		0.6U	1.5
1,1,2,2-Tetrachloroethane		0.6U	0.6U
Toluene		0.6U	2.3
Chlorobenzene	0.27	0.6U	0.6U
Ethylbenzene	0.2	0.6U	0.6U

500

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Summary of Data for Excavated Areas
Data in ppm

Sample ID:	16A	16-1-A	16-2-A	16-3-A	16-4-A	16-5-A
Sample Depth (in.):	12-36	12-36	12-36	12-36	12-36	12-36
Metals						
Antimony	2.7U					
Arsenic	12	10	57	28	28	63
Barium	910					
Beryllium	14U					
Cadmium	14U	0.25U	2.3	1.3	0.25U	1.5
Chromium	1160	500	630	590	1200	730
Copper	220	78	360	2300	86	85
Lead	380	200	1000	3000	180	300
Mercury	0.85					
Nickel	170					
Selenium	26	2.4	1.2U	1.3U	1.4U	1.4U
Silver	14U					
Thallium	140U					
Zinc	390					

Sample ID:	16-6-A	16-7-A	16-8-A	16-9-Z	16-10-Z
Sample Depth (in.):	12-36	12-36	12-36	36	36
Metals					
Arsenic	33	24	10		9.6
Cadmium	0.8	2.4	0.25U		
Chromium	160	9000	1300	110	31
Copper	94	140	120	74	120
Lead	65	170	120	55	180
Nickel				34	29
Selenium	12	2.4	1.4U		
Zinc				200	120

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	17A	17-1-Z	17-2-Z	17-2-Z
Sample Depth (in.):	12-36	36	36	36 (DUP)
Volatile Organics				
Chloromethane		0.6U	0.6U	0.6U
Bromomethane		0.6U	0.6U	0.6U
Vinyl Chloride		0.6U	0.6U	0.6U
Chloroethane		0.6U	0.6U	0.6U
Methylene Chloride		0.9	0.6U	0.69
Trichlorofluoromethane		0.6U	0.6U	0.6U
1,1-Dichloroethylene		0.6U	0.6U	0.6U
1,1-Dichloroethane		0.6U	0.6U	0.6U
Trans-1,2-dichloroethylene		0.6U	0.6U	0.6U
Chloroform		0.6U	0.69	0.6U
1,2-Dichloroethane		0.6U	0.6U	0.6U
1,1,1-Trichloroethane		3U	6.5	5.5
Carbon Tetrachloride		0.6U	1	0.94
Bromodichloromethane		0.6U	0.6U	0.6U
1,1-Dichloropropane		0.6U	0.6U	0.6U
Trans-1,3-dichloropropene		0.6U	0.6U	0.6U
Trichloroethylene		0.6U	0.63	0.6U
Dibromochloromethane		0.6U	0.6U	0.6U
Cis-1,3-dichloropropene		0.6U	0.6U	0.6U
1,1,2-Trichloroethane		0.6U	0.6U	0.6U
Benzene		0.6U	0.6U	0.6U
1-Chloroethyl-vinyl ether		0.6U	0.6U	0.6U
Bromoform		0.6U	0.6U	0.6U
Tetrachloroethene		0.6U	27	19
1,1,2,2-Tetrachloroethane		0.6U	1.6	0.6U
Toluene		1.9	2.6	1.8
Chlorobenzene		0.6U	0.6U	0.6U
Ethylbenzene		0.6U	0.68	0.6U
Metals				
Antimony	6.2U			
Arsenic	4.2	7	17	
Barium	120U			
Beryllium	12U			
Cadmium	0.25U			
Chromium	25U	19	140	
Copper	88	38	410	
Lead	25U	73	170	
Mercury	0.13			
Nickel	25U	14	83	
Selenium	2.5U			
Silver	12U			
Thallium	120U			
Zinc	48	62	430	

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Summary of Data for Excavated Areas
Data in ppm

Sample ID:	21A	21B	21-1-A	21-2-A	21-3-A	21-6-A
Sample Depth (in.):	12-36	0	24-36	24-36	24-36	24-36
Volatile Organics						
Methylene Chloride		0.031				
1,1,1-Trichloroethane		0.008			—	
Metals						
Antimony	6.2U					
Arsenic	10					
Barium	120U					
Beryllium	12U					
Chromium	50					
Copper	55					
Lead	250					
Mercury	0.1					
Nickel	25U					
Selenium	2.5U					
Silver	12U					
Thallium	120U					
Zinc	130					
Miscellaneous Paramaters						
Cyanide	12U					
PCBs	1.1		2.3	1.6	1U	2.5

Sample ID:	21-7-Z	21-8-X	21-9-X	21-10-Z
Sample Depth (in.):	36	0	0	36
Metals				
Copper		38		
Lead	490		50	96
Nickel		100		
Zinc	350		140	300
Miscellaneous Paramaters				
Cyanide	U	1.7	U	U

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	22B	22-10-X	22-11-X	22-12-Z
Sample Depth (in.):	0	0	0	36
Volatile Organics				
Methylene Chloride	0.013			
Chloroform	0.018			
Metals				
Antimony	6.2U			
Arsenic	12			
Barium	200			
Beryllium	12U			
Chromium	50			
Copper	78			
Lead	410	65	51	150
Mercury	0.12			
Nickel	38			
Selenium	2.5U			
Silver	12U			
Thallium	120U			
Zinc	350	160	120	400

Sample ID:	22B	22-1-A	22-2-A	22-3-A	22-4-A	22-5-A
Sample Depth (in.):	0	24-36	24-36	24-36	24-36	24-36
Miscellaneous Paramaters						
Cyanide	12U					
PCBs	21	19.8	2.9	9.6	5.8	5.4

Sample ID:	22-6-A	22-7-B	22-7-B	22-8-B	22-9-A
Sample Depth (in.):	24-36	0	0 (DUP)	0	24-36
Miscellaneous Paramaters					
PCBs	10U	2.7	4.4	16.5	10U

Sample ID:	22-10-X	22-11-X	22-12-Z
Sample Depth (in.):	0	0	36
Miscellaneous Paramaters			
PCBs	U	U	1.3

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	25A	25-1-Y	25-2-Y	25-3-X
Sample Depth (in.):	12-36	12-36	12-36	0
Metals				
Antimony	6.2U			
Arsenic	5			
Barium	120U			
Beryllium	12U			
Chromium	25U			
Copper	150			
Lead	88	460	130	
Mercury	0.44			
Nickel	25U			
Selenium	2.5U			
Silver	12U			
Thallium	120U			
Zinc	750	100	310	350
Miscellaneous Parameters				
Cyanide	12U			

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Summary of Data for Excavated Areas
Data in ppm

Sample ID:	26A
Sample Depth (in.):	12-36
Metals	
Antimony	2.9U
Arsenic	8.1
Barium	140U
Beryllium	14U
Chromium	1580
Copper	170
Lead	230
Mercury	0.81
Nickel	126
Selenium	2.9U
Silver	14U
Thallium	140U
Zinc	1370
Miscellaneous Parameters	
Cyanide	12U

853890281

Sample ID:	26A
Sample Depth (in.):	12-36
Metals	
Antimony	2.9U
Arsenic	8.1
Barium	140U
Beryllium	14U
Chromium	1580
Copper	170
Lead	230
Mercury	0.81
Nickel	126
Selenium	2.9U
Silver	14U
Thallium	140U
Zinc	1370
Miscellaneous Parameters	
Cyanide	12U

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	33A	33Z	33-1-B	33-2-B	33-3-B	33-4-B
Sample Depth (in.):	12-36	36	0	0	0	0
Metals						
Antimony	6.2U					
Arsenic	16	16	30	42	40	51
Barium	120U					
Beryllium	12U					
Cadmium			1	1.5	1.6	2
Chromium	110	150	5300	11000	8500	9900
Copper	65	140	490	730	620	740
Lead	98	240	880	1400	1100	1000
Mercury	0.58					
Nickel	48	56				
Selenium	2.5U		1.4U	1.4U	1.3U	11
Silver	12U					
Thallium	120U					
Zinc	100	200				
Miscellaneous Parameters						
Cyanide		U	160			

Sample ID:	33-5-B	33-6-B	33-7-B	33-8-B	33-9-Z	33-10-Z
Sample Depth (in.):	0	0	0	0	36	36
Metals						
Arsenic	26	35	54	40	15	6.1
Cadmium	2.8	1.6	1.2	1.8		
Chromium	19000	4800	8600	11000	74	1200
Copper	1200	430	620	750	210	120
Lead	1900	900	1100	1400	300	110
Nickel					51	280
Selenium	14	3.1	1.5	1.5U		
Zinc					220	520
Miscellaneous Parameters						
Cyanide					0.79	12

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	33-11-Z	33-12-Z	33-13-Z	33-14-Z
Sample Depth (in.):	36	36	36	36
Metals				
Arsenic	8.4	5.6	2.3	38
Chromium	17	22	13	200
Copper	58	67	U	2300
Lead	83	U	U	1900
Nickel	37	29	U	300
Zinc	130	62	U	13000
Miscellaneous Parameters				
Cyanide	1.2	U	U	U

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	34A	34-1-Z	34-2-Z	34-3-Z	34-4-Z	34-5-Z
Sample Depth (in.):	12-36	36	36	36	36	36
Metals						
Antimony	2.7U					
Arsenic	6	36	15	12	25	8.3
Barium	140U					
Beryllium	14U					
Chromium	27	280	180	180	5000	5800
Copper	36	1800	290	82	610	430
Lead	27U	1200	420	460	270	440
Mercury	0.13					
Nickel	19	220	82	32	1500	1400
Selenium	2.7U					
Silver	14U					
Thallium	140U					
Zinc	60	8600	690	140	4100	3500
Miscellaneous Parameters						
Cyanide		2.7	U	23	57	61

Sample ID:	34-6-Z	34-7-Z
Sample Depth (in.):	36	36
Metals		
Arsenic	4.4	5.2
Chromium	650	U
Copper	210	24
Lead	420	U
Nickel	240	20
Zinc	1300	150
Miscellaneous Parameters		
Cyanide	7.7	21

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	37-1-B	37-2-B	37-3-B	37-4-B	37-5-B	37-6-B
Sample Depth (in.):	0	0	0	0	0	0
Metals						
Arsenic	11	14	20	17	14	16
Cadmium	2.6	3.2	4.5	1.3	2.1	2.9
Chromium	310	370	5000	1900	480	290
Copper	220	201	150	130	80	120
Lead	220	250	340	200	160	1400
Selenium	0.98U	1.3U	1.6U	1.3U	1.4U	6.3
Miscellaneous Parameters						
Cyanide	34					

Sample ID:	37-7-B	37-8-B	37-9-B	37-10-B	37-10-B	37-11-B
Sample Depth (in.):	0	0	0	0	0 (DUP)	0
Metals						
Arsenic	11	16	14	23	140	13
Cadmium	2.6	3	2.2	3.4	13U	2.6
Chromium	75	1500	1300	6300	5500	540
Copper	220	140	320	180	600	200
Lead	150	240U	280	290	330	240
Selenium	1.2U	1.3U	1.3U	1.4U	1.3U	1.3U

Sample ID:	37-12-B	37-13-B	37-13-B
Sample Depth (in.):	0	0	0 (DUP)
Metals			
Arsenic	17	15	17
Cadmium	4.8	29	1.6
Chromium	3000	470	2700
Copper	270	230	240
Lead	330	300	440
Selenium	1.4U	1.2	1.9U

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	38-1-B	38-2-B	38-3-B	38-4-B	38-5-B	38-6-B
Sample Depth (in.):	0	0	0	0	0	0
Metals						
Arsenic	17	34	54	30	20	25
Cadmium	3.3	0.7	1.7	1.7	− 1.6	1.2
Chromium	1500	6300	7400	8300	3000	8200
Copper	350	110	170	530	220	130
Lead	270	210	340	240	240	280
Selenium	1.2U	1.2U	1.3U	1.5U	1.2U	1.4U
Miscellaneous Parameters						
Cyanide	100					

Sample ID:	38-7-B	38-8-B	38-9-B	38-10-B	38-11-B
Sample Depth (in.):	0	0	0	0	0
Metals					
Arsenic	12	82	28	44	21
Cadmium	0.5	0.83	1.9	2.6	4.1
Chromium	8200	9300	1100	5600	680
Copper	90	130	180	140	220
Lead	140	300	340	320	400
Selenium	1.4U	4.6	2	1.4U	2

Sample ID:	38-12-X	38-12-X
Sample Depth (in.):	0	0
Metals		
Arsenic	51	59
Chromium	480	1100
Copper	410	60
Lead	740	89
Nickel	140	92
Zinc	480	180
Miscellaneous Parameters		
Cyanide	3.1U	3.1

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Summary of Data for Excavated Areas
Data in ppm

Sample ID:	39-2-X	39-3-X	39-4-X	39-7-X	39-7-X
Sample Depth (in.):	0	0	0	0	0 (DUP)
Metals					
Chromium	200	210	88	110	91
Lead	350	250	260	300	280

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	44B	44-2-X
Sample Depth (in.):	0	0
Metals		
Arsenic	29	
Cadmium	2	
Chromium	770	160
Copper	130	
Lead	290	520
Nickel	110	
Selenium	1.3U	
Zinc	200	
Miscellaneous Paramaters		
Cyanide	2.5U	
TPHC	26	

Summary of Data for Excavated Areas
Data in ppm

Sample ID:	45A	45-1-Z	45-6-Z	45-7-Z	45-9-Z
Sample Depth (in.):	12-36	36	36	36	36
Metals					
Arsenic	29				
Cadmium	0.78				
Chromium	46				
Copper	68				
Lead	300	560	340	250	83
Nickel	47				
Selenium	1.3U				
Zinc	230				
Miscellaneous Paramaters					
Cyanide	2.5U				
TPHC	51				

Summary of Data for Excavated Areas
Data in ppm

Sample ID: Sample Depth (in.):	47B 0	47-3-X 0	47-4-X 0	47-5-X 0	47-6-X 0	47-7-X 0
Metals						
Arsenic	39					
Cadmium	0.58					
Chromium	120	120	240	120	91	110
Copper	66					
Lead	310	460	400	380	240	320
Nickel	50					
Selenium	1.3U					
Zinc	75					
Miscellaneous Paramaters						
Cyanide	2.5U					
TPHC	14					

Sample ID: Sample Depth (in.):	47-7-X 0 (DUP)	47-8-X 0
Metals		
Chromium	83	250
Lead	260	450

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ENSR

AT&T

Kearny, New Jersey

Remedial Proposal for Contaminated Soil at Former Drum Storage Pad ECRA Case No. 84025

ENSR Consulting and Engineering

February 1993

Document Number 0550-263-400(524)

Figures

853890292

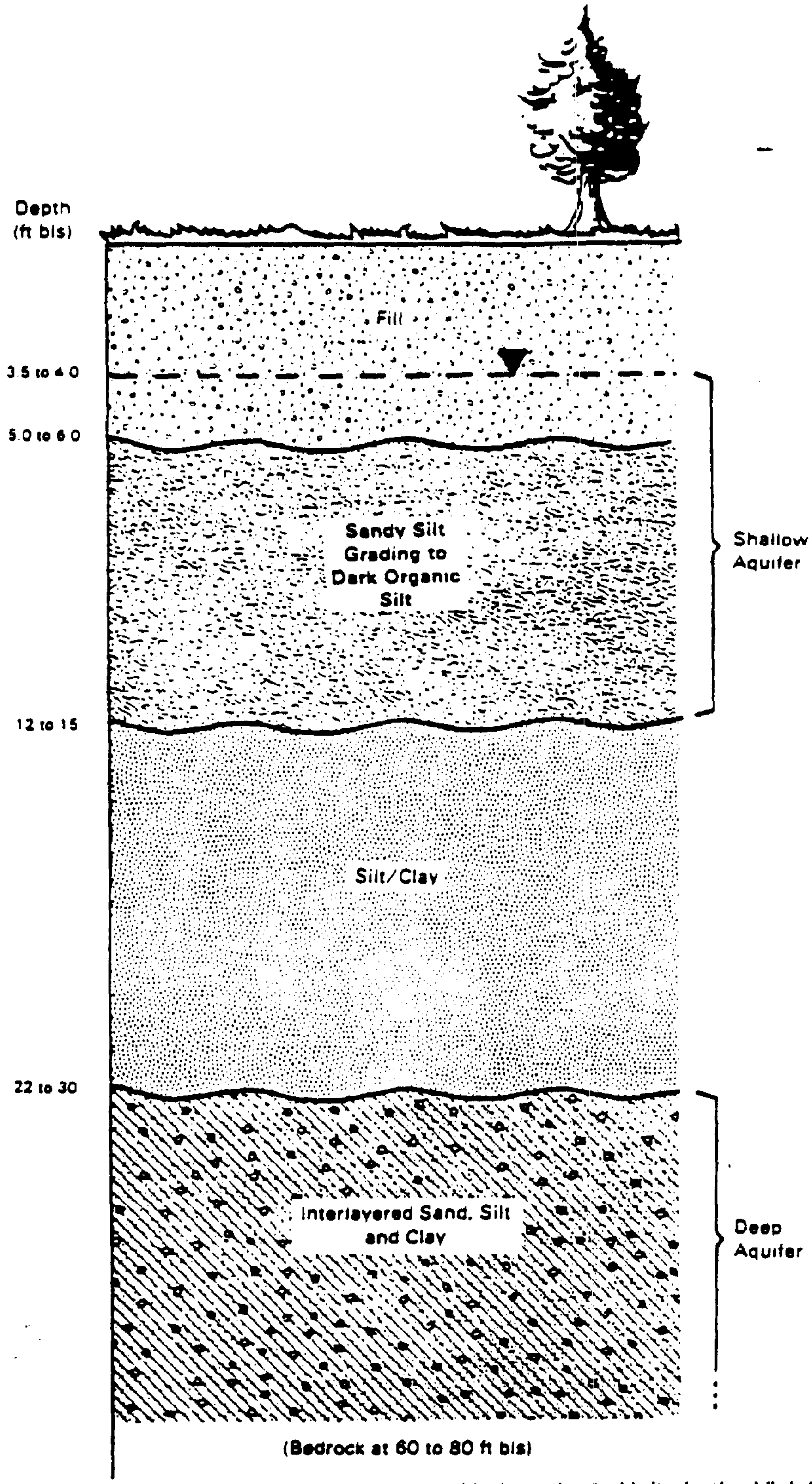
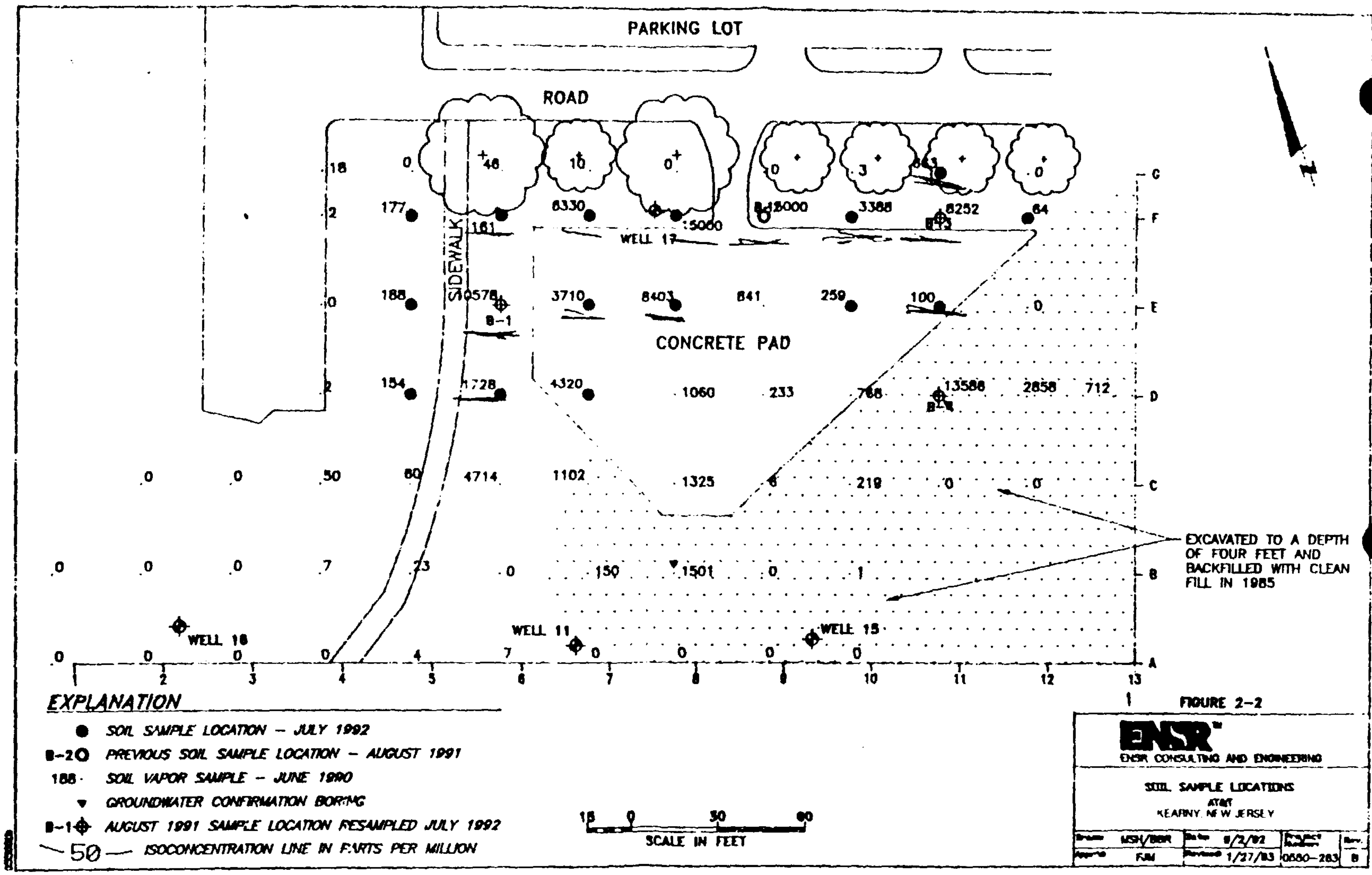


FIGURE 2-1
Hydrogologic Units in the Vicinity of Well ATT11



PARKING LOT
ROAD
SIDEWALK
WELL 17
B-1
CONCRETE PAD
WELL 18
WELL 11
WELL 15
EXCAVATED TO A DEPTH OF FOUR FEET AND BACKFILLED WITH CLEAN FILL IN 1985
EXPLANATION
SOIL SAMPLE LOCATION – JULY 1992
B-2 PREVIOUS SOIL SAMPLE LOCATION – AUGUST 1991
188 SOIL VAPOR SAMPLE – JUNE 1990
GROUNDWATER CONFIRMATION BORING
B-1 AUGUST 1991 SAMPLE LOCATION RESAMPLED JULY 1992
50 ISOCONCENTRATION LINE IN PARTS PER MILLION
SCALE IN FEET
FIGURE 2-2
ENSR
ENSR CONSULTING AND ENGINEERING
SOIL SAMPLE LOCATIONS
AT&T
KEARNY, NEW JERSEY

853890294

14

NJDEP letter to AT&T dated August 11, 1992 and AT&T letter and attachments to NJDEP dated September 3, 1992.

- Identifies waste storage area and establishes potential discharge mechanisms.

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

AUG 11 1992

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
Nicholas W. Capuano
AT & T
131 Morristown Road
Basking Ridge, NJ 07920

RE: Western Electric Co., Inc. - Kearny Works (Western Electric)
Kearny Town, Hudson County
ECRA Case #84025

Dear Mr. Capuano:

As part of the Environmental Cleanup Responsibility Act review process, Western Electric was inspected by a representative of the Bureau of Environmental Evaluation and Cleanup Responsibility Assessment on July 22, 1992. The inspection was conducted to ensure that sampling was conducted in accordance with the NJDEPE's letter dated June 9, 1992. All sampling was performed in accordance with said letter.

During the inspection approximately eleven drains, with unknown discharge points, were observed in the former drum storage pad. When a photo ionization detector screened the water inside the discharge pipe of one of the drains, total volatile organic compounds were detected at 22 parts per million. Due to the potential impact to the environment, Western Electric shall determine the discharge point of the former drum storage pad drains (plumbing diagrams, dye test, etc.). Western Electric shall submit documentation on the method used to determine the discharge points and the location of the outfalls to the NJDEPE, within 30 days of the receipt of this letter.

If you have any questions regarding this letter, please contact the Case Manager, Carol Lynn J. Heck, at (609) 633-7141.

Sincerely,

Carolyn K. Scott, for
Tessie W. Fields Section Chief
Bureau of Environmental Evaluation and
Cleanup Responsibility Assessment

AT&T

131 Morristown Road
Basking Ridge, NJ 07920

September 3, 1992

N.J. Department of Environmental Protection & Energy
Division of Responsible Party Site Remediation
Ms. Carol Lynn Heck
CN - 028
Trenton, New Jersey 08625-0028

Re: **AT&T Kearny Works**
Kearny, NJ
ECRA Case #84025

Dear Ms. Heck:

In response to your August 11, 1992 inquiry concerning the drains located in the former drum storage pad, I have enclosed the following documentation as prepared by ENSR Consulting and Engineering for AT&T:

Attachment No. 1: This attachment identifies the fourteen catch basins that were cleaned on the subject concrete pad.

Attachment No. 2: Included in this attachment are copies of the relevant pages of the certification document (Document Number 888-40, February 1986) submitted to and approved by the NJDEPE. Item No. 3 on page 2-1 certifies ERT observations that the peripheral soil was removed, the concrete pad was swept off, and the catch basins were vacuumed, roto rooted, and jet cleaned. All residual material was collected and disposed of off-site in a permitted landfill.

Attachment No. 3: This attachment includes copies of the relevant pages of ERT's daily field log. The text marked with asterisks on page 151 document my observations of the catch basin cleaning procedures.

Attachment No. 4: This attachment includes a copy of the contractor's daily work log that identifies the snaking and jetting of the subject catch basins was completed.

The enclosed documentation should answer your concerns to these drains. As the documents demonstrate all these drains were cleaned out and all waste removed from the site and disposed according to regulatory requirements.

Attachment No. 2 provides the certification that the clean up of "Other Clean Up" has been completed according to the NJDEP approved Environmental Clean Up Plan.

If you have any questions or comments, please call me at (908) 204-8268.

Sincerely,

Nicholas W Capuano

Nicholas W. Capuano
Kearny ECRA Clean Up
Manager

ATTACHMENT NO. 1

NO.	REVISIONS	BY	CKD.	APP.	DATE
4	AS BUILT	SD	RNR	RNR	12
3	CHANGES TO AREAS 33 & 34 ; ADDED IN PLACE VOLUMES	SD	RNR		10-8 85
2	CHANGE TO AREAS (4,5,6), 7, 8A, 8B, 11A, 11B, 14, (21,22A), (21,22 B), 31, 37, 38, 9				8-9-85
1	CHANGES TO AREAS 11, 15, 21, 22, 26, 44, 48, 49	MEM	JML		5-20-85

ERT ENVIRONMENTAL RESEARCH & TECHNOLOGY, INC.
696 VIRGINIA ROAD, CONCORD, MASSACHUSETTS 01742

TITLE:

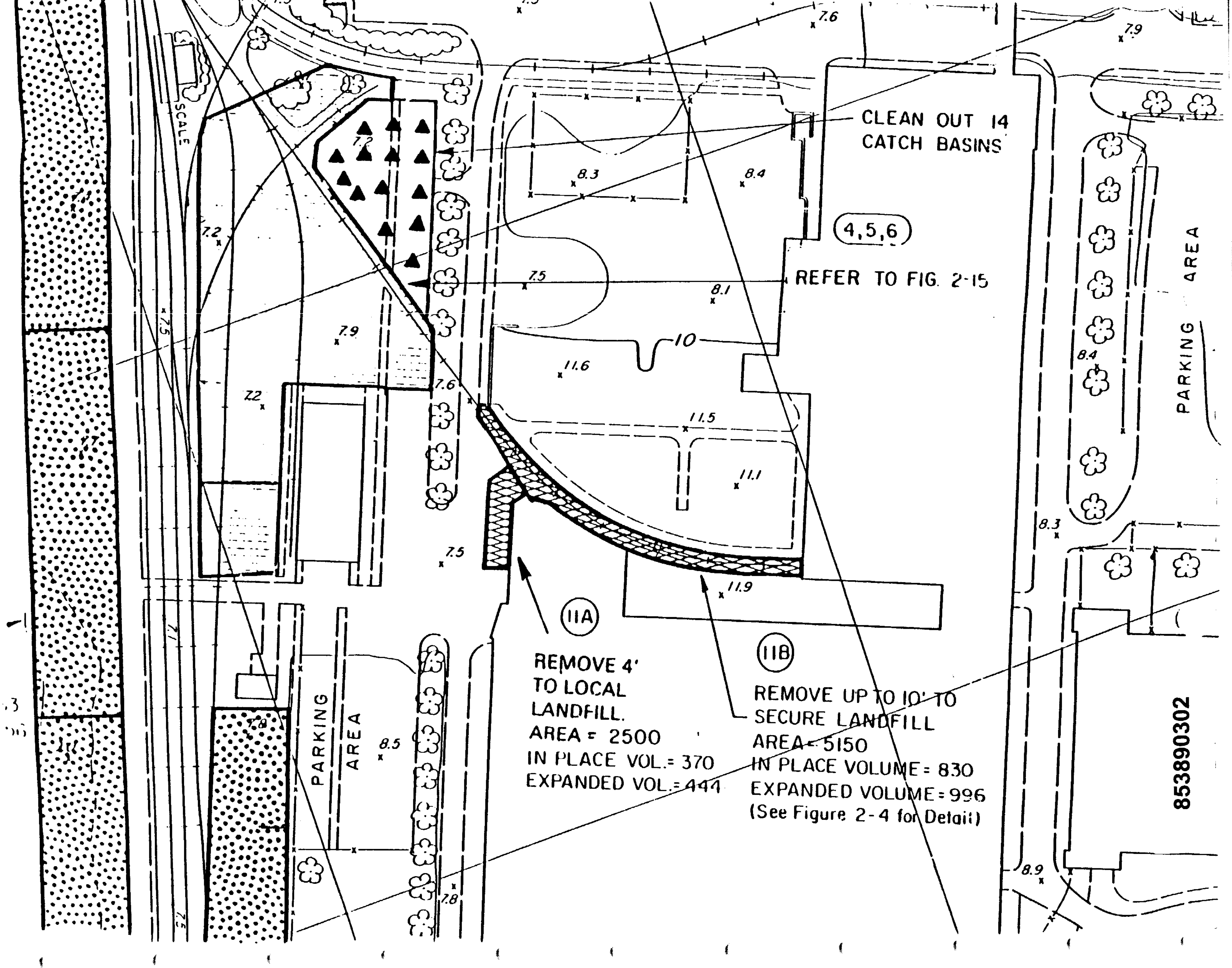
COMPLETED SOIL EXCAVATION
AT&T KEARNY WORKS

WILLIAM A. DUVEL
Professional Engineer

Wm A Duvel 1/21/88
N.J. Lic. No. GE 28465

DRAWN: M. McCARTNEY	DATE: 3-22-85	DRAWING NO. FIG. 2-16
CHECKED:	SCALE: 1" = 100'	
APPROVED:		

853890301



CLEAN OUT 14 CATCH BASINS
4,5,6
REFER TO FIG. 2-15
SCALE
PARKING AREA
PARKING AREA
11A
REMOVE 4' TO LOCAL LANDFILL.
AREA = 2500
IN PLACE VOL.= 370
EXPANDED VOL.= 444
11B
REMOVE UP TO 10' TO SECURE LANDFILL
AREA = 5150
IN PLACE VOLUME = 830
EXPANDED VOLUME = 996
(See Figure 2-4 for Detail)

8538900302

ATTACHMENT NO. 2

CERTIFICATION OF ECRA OTHER CLEANUP

AT&T KEARNY WORKS

Document Number 888-440

February 1986

ERT
ENVIRONMENTAL RESEARCH & TECHNOLOGY, INC.
ATLANTA · CHICAGO · CONCORD, MA · FORT COLLINS, CO
HOUSTON · LOS ANGELES · PITTSBURGH · WASHINGTON, DC

CERTIFICATION OF ECRA OTHER CLEANUP

AT&T KEARNY WORKS

Document Number 888-440

February 1986

Prepared for

AT&T TECHNOLOGIES, INC.

Prepared by

ERT, A Resource Engineering Company
696 Virginia Road, Concord, Massachusetts 01742

5797D PC888-430

853890305

CERTIFICATION OF OTHER CLEANUP

ERT certifies that it has carried out a quality assurance and inspection program for the site cleanup activities conducted by various contractors engaged by AT&T Technologies, Inc. (AT&T) to effect the cleanup of AT&T's Kearny Works, as described in the Amended Environmental Cleanup Plan, Kearny Works, AT&T Technologies, Inc. (ERT Document D367-200). This Plan was prepared by ERT and approved by the New Jersey Department of Environmental Protection (NJDEP) on July 8, 1985. The quality assurance and inspection plans followed by ERT are attached. On the basis of the work conducted by ERT in accordance with these plans, ERT has determined that the cleanup work conducted by the various contractors for Other Cleanup* has been completed and is in conformance with the requirements of the Amended Environmental Cleanup Plan. This document describes the work conducted by ERT and presents the basis for this certification.

Wm A Duvel 3/7/86

Dr. William A. Duvel, Jr., P.E.
Senior Program Manager

*Separate Certifications for (1) Soil Cleanup, and (2) Ground Water Cleanup.

5797D 888-430

2. STORAGE FACILITIES

The following paragraphs discuss the activities taken in the following storage facilities in a clockwise order of rotation beginning in the lower left corner of Drawing 8452-120579-D (see back pocket).

1. Building 25, Grid Index J-4, has 32 adjacent underground tanks. Each of these tanks had been emptied and filled with sand/cement at some time unrecorded in the past. To verify that this condition was true, AT&T opened the manholes accessing the tanks and found they do contain sand/cement materials to the top and contain no liquids. ERT reviewed an AT&T memo dated July 5, 1985, that requested an additional week of work for the person opening the manhole accessing the tank. A spot check by ERT of two manholes showed they are filled with sand/cement.

2. Silt pumped from Powerhouse cooling water tunnels was deposited at Grid Index J-2 several years ago. The area where the silt was deposited was excavated and removed in conjunction with Area 2 soil excavation. See Certification of ECRA Soil Cleanup, ERT Document No. D888-430, for details of ERT certification of soil removal.

3. Two storage pads:

   * a) Concrete pad adjacent to soil area 4, 5, 6. ERT observations document that the periferal soil was removed, the concrete pad was swept off, and the catch basins were vacuumed, roto rooted, and jet cleaned. All residual material was collected and disposed of off-site in a permitted landfill as required by state and federal solid waste regulations (see also soil excavation in Area 4, 5, 6 in Certification of ECRA

Soil Cleanup, ERT Document No. D888-430 for details of ERT certification of soil removals and catch basin cleanout).

b) RCRA storage area. ERT observations document that residues and standing liquids in this area were mechanically removed by scraping and vacuuming. The area was further cleaned by high pressure water washing and vacuuming the wash water. A review of AT&T Work Orders SP926 and W-47156 document pre-cleanup measures. The pre-cleanup measures included the identification and disposal of all drums by Chemical Waste Management (CWM), Newark, N.J. (ref. manifest listing March 1985 to July 1985).

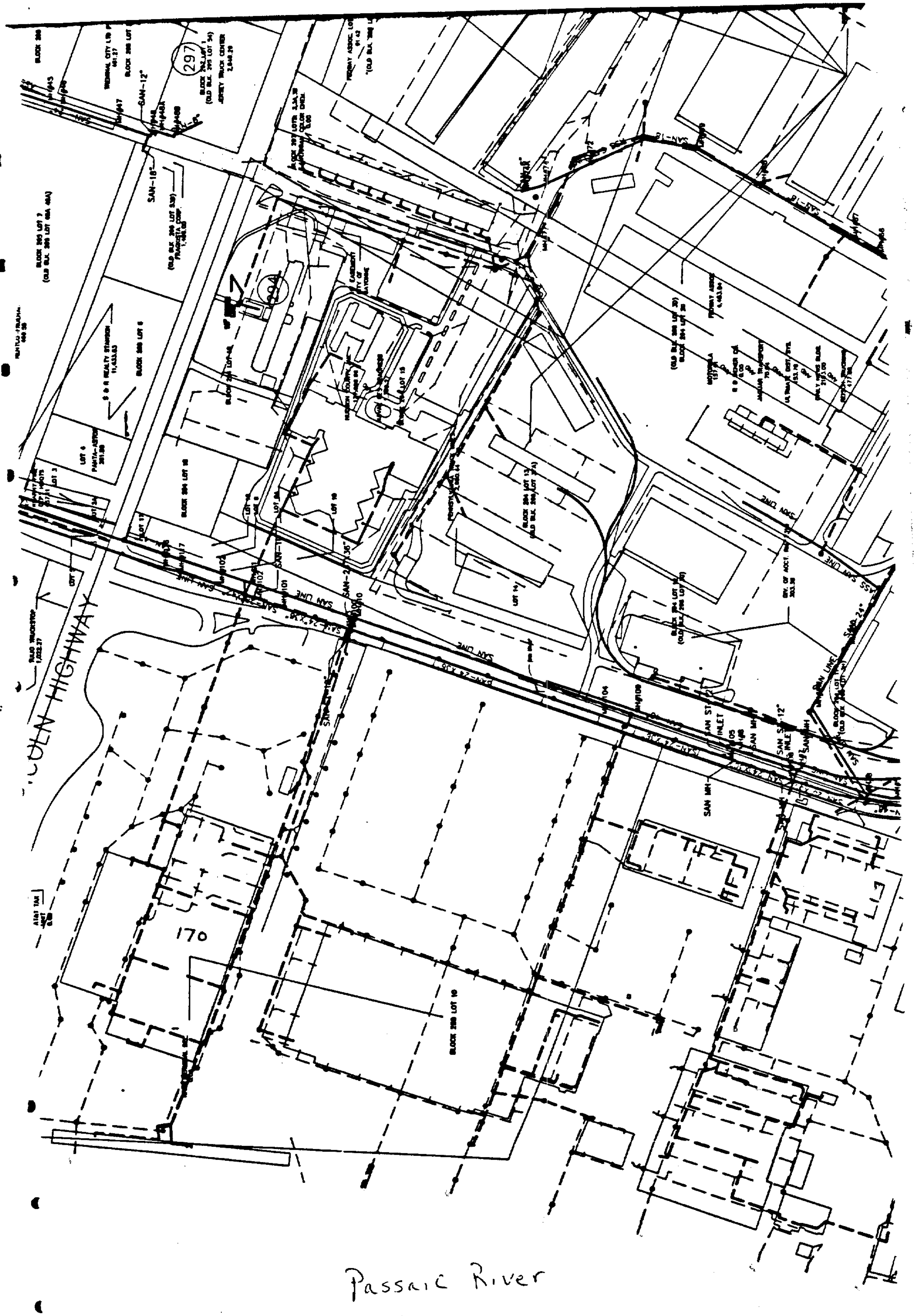
4. Four 10,000-gallon underground tanks located south of Building 83 at Grid Index H-3. Three tanks were drained and filled with sand approximately 15 years ago and required no action. The fourth tank contained diesel oil. The tank was water/steam cleaned, nitrogen purged, excavated, and cut up by CWM, and removed from the area for salvage by the new owner. The residual oils were removed and sent to Flowen Oil Company for reclaiming. The above work was performed by CWM and witnessed by ERT.

5. 840,000-gallon oil tank at Grid Index G-3. ERT observed the removal of residual sludge and oil, venting and cleaning the tank using high pressure water/steam, and flushing the underground transfer lines with water to and from the day tank and the powerhouse. ERT inspected the interior of the tank to verify that it was clean. Review of 14 NJA manifests labeled "Waste Oil and water, recycle #6 Fuel Oil," to Flowen Oil Company documents the disposal of the tank cleanout. Review of 12 NJA manifests labeled "Hazardous Waste Liquid (N.O.S)" identifies that the residual sludges and washdown materials were disposed of at the SCA (Newark) treatment plant.

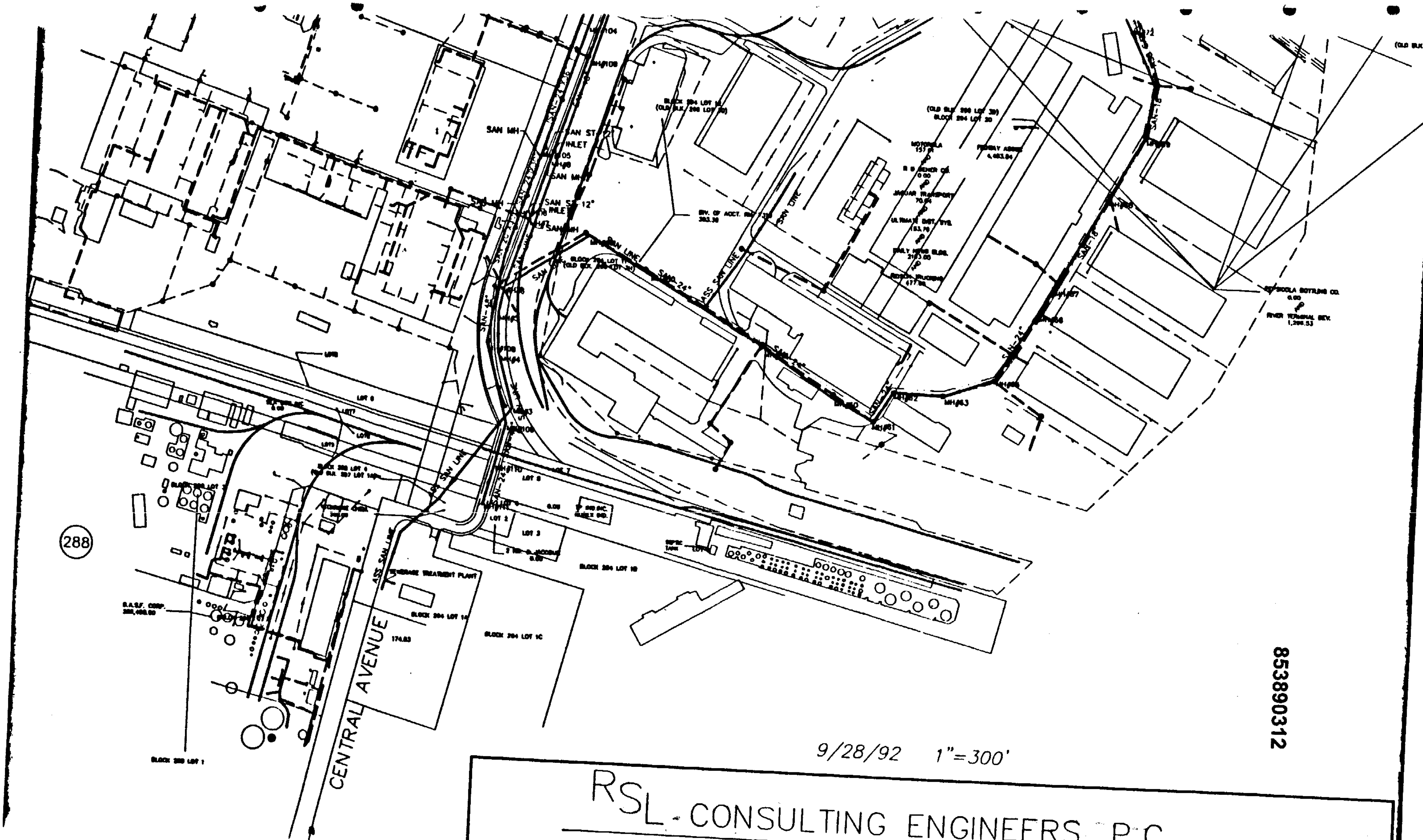
15

RSL Consulting Engineer, P.C., 1992 Sewer Map for South Kearny.

- Identifies outfalls to the Passaic River and potential discharge mechanisms.



853890311



9/28/92 1"=300'

RSL CONSULTING ENGINEERS, P.C.

Engineers ● Land Surveyors ● Planners

853890312

16

Site Hydrogeologic Conditions Kearny Works AT&T Technologies, Inc, Dated March 25, 1985 and Revised June 17, 1985.

- Provides potential discharge of contaminated groundwater to the Passaic River.

Appendix E

SITE HYDROGEOLOGIC CONDITIONS
KEARNY WORKS
AT&T TECHNOLOGIES, INC.
(Western Electric Company, Inc.)

VOLUME I OF II

Job NO. 85C217

Prepared for

AT&T Technologies, Inc.
100 Central Avenue
Kearny, New Jersey

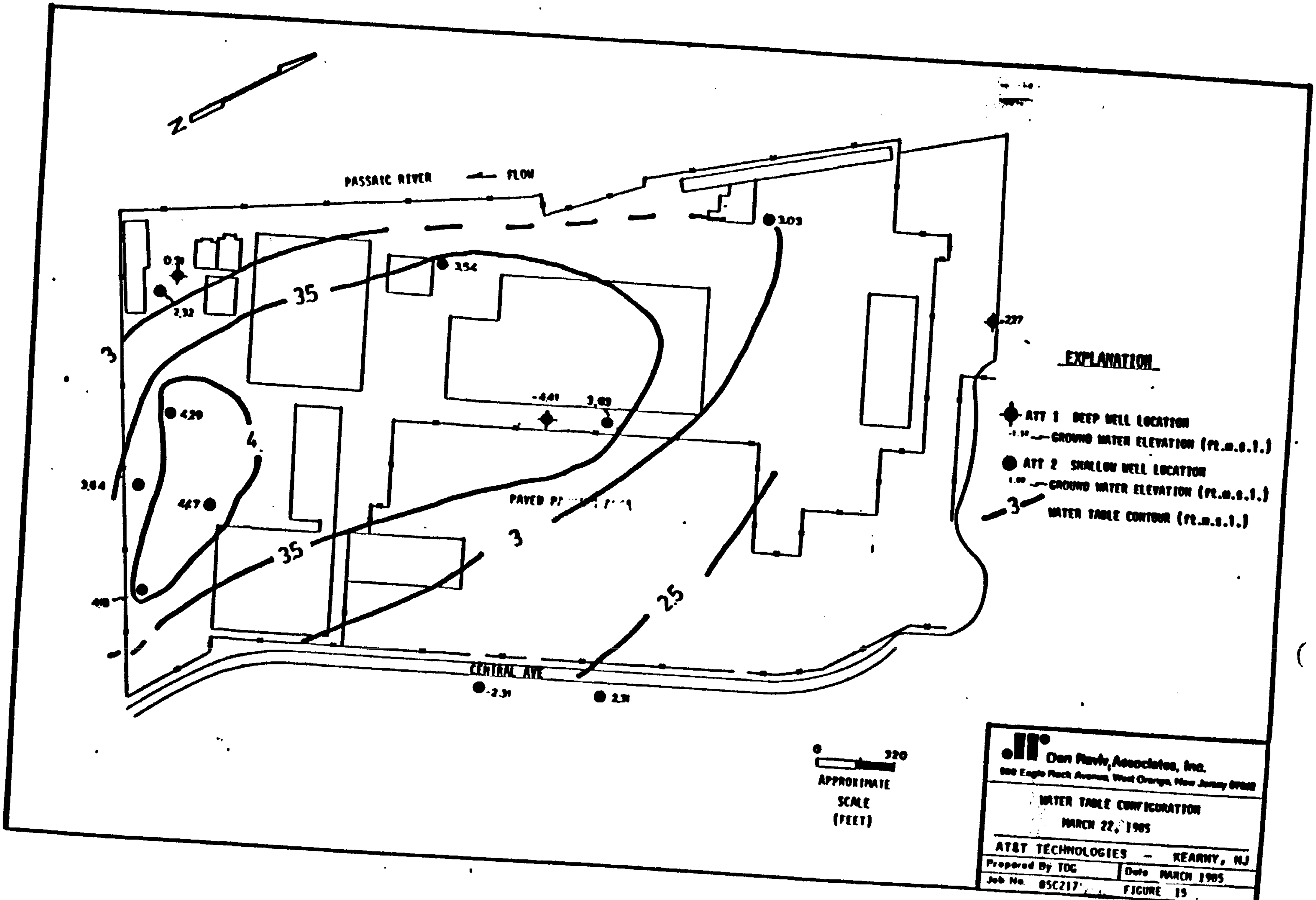
Prepared by

Dan Raviv Associates, Inc.
588 Eagle Rock Avenue
West Orange, New Jersey

In cooperation with

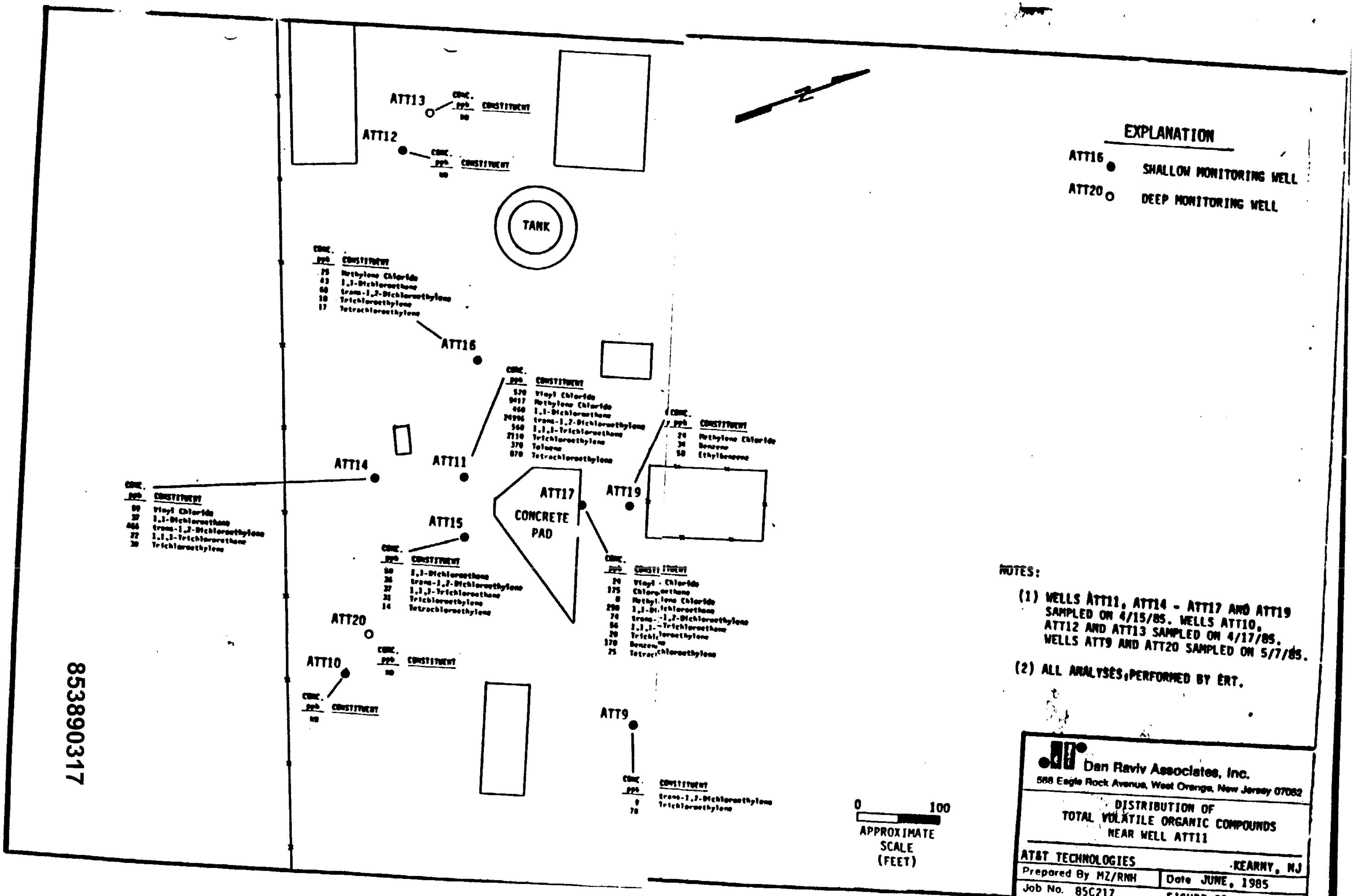
Environ Corporation
40 North Tulane Street
Princeton, New Jersey

March 25, 1985
Revised: June 17, 1985



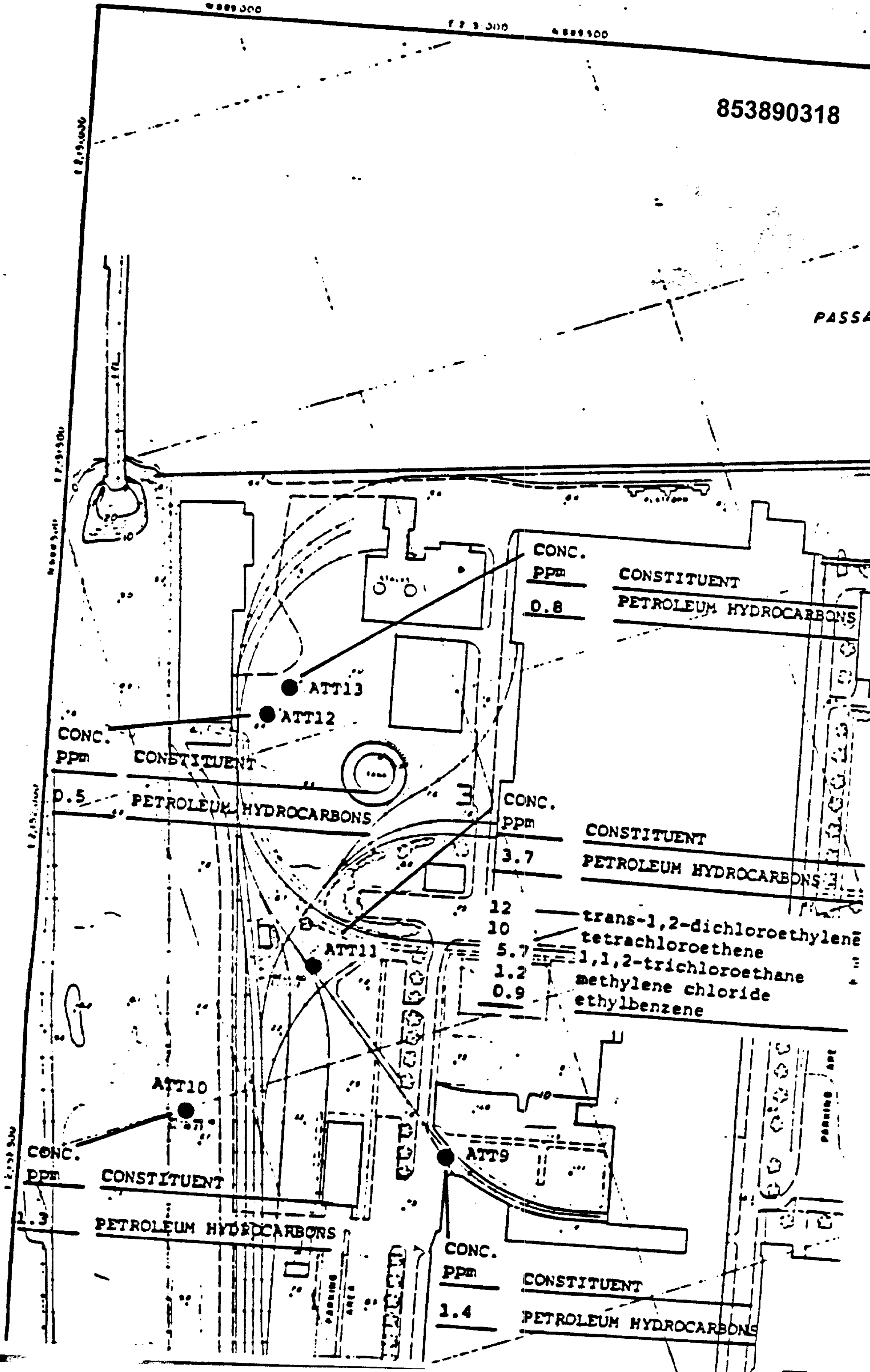
N
PASSAIC RIVER
FLOW
3.03
3.54
2.32
35
3
4.29
4
3.04
4.17
-4.41
3.03
PAVED
35
3
2.5
CENTRAL AVE
-2.31
2.31
2.27
EXPLANATION
ATT 1 DEEP WELL LOCATION
GROUND WATER ELEVATION (ft.m.s.l.)
ATT 2 SHALLOW WELL LOCATION
GROUND WATER ELEVATION (ft.m.s.l.)
3 WATER TABLE CONTOUR (ft.m.s.l.)
0
320
APPROXIMATE
SCALE
(FEET)
Dan Raviv Associates, Inc.
500 Eagle Rock Avenue, West Orange, New Jersey 07052
WATER TABLE CONFIGURATION
MARCH 22, 1985
AT&T TECHNOLOGIES – KEARNY, NJ
Prepared By TOG
Date MARCH 1985
Job No. 85C217
FIGURE 15

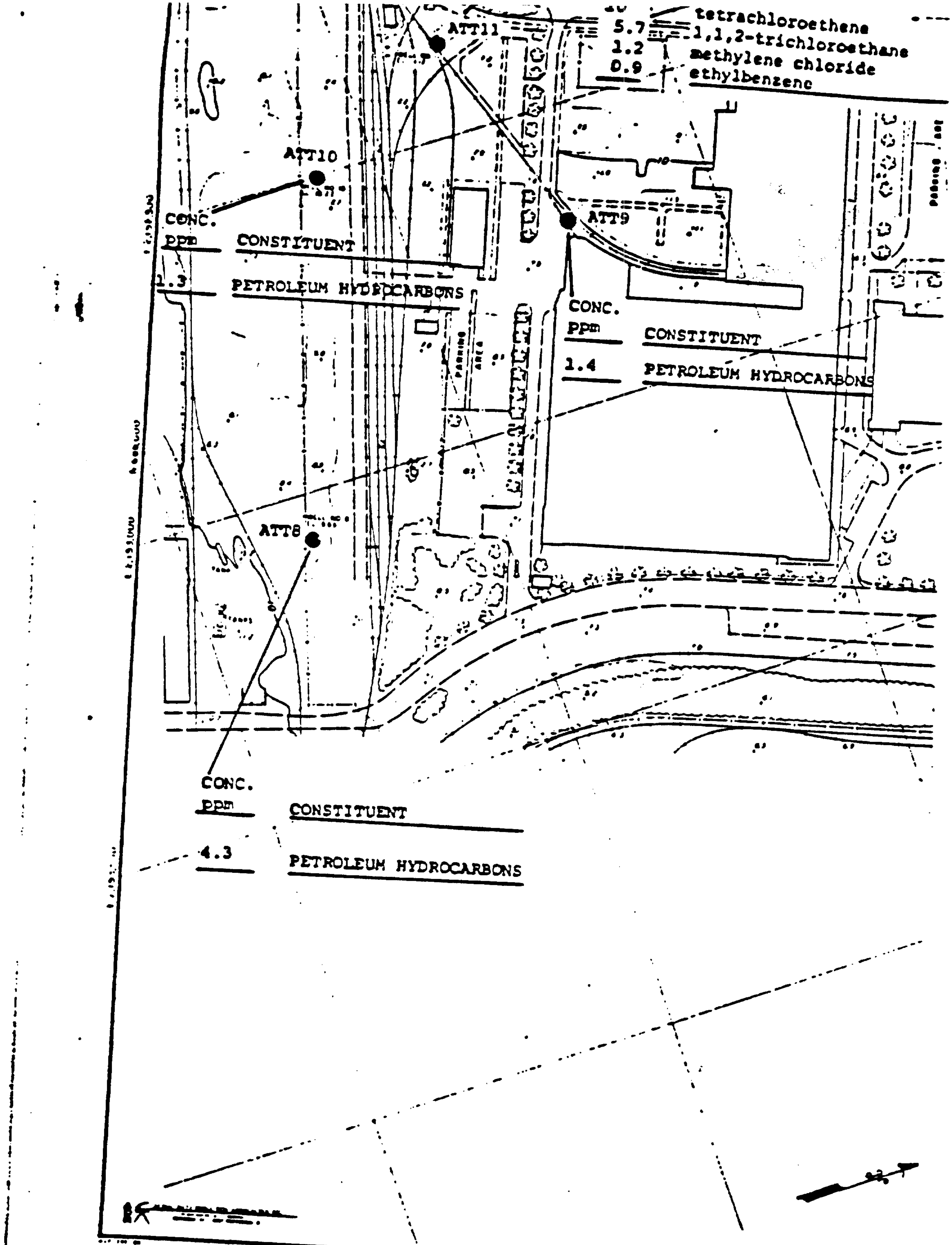
853890316


N
EXPLANATION
ATT16 SHALLOW MONITORING WELL
ATT20 DEEP MONITORING WELL
TANK
CONCRETE PAD
ATT13
CONC. ppb CONSTITUENT
ND
ATT12
CONC. ppb CONSTITUENT
ND
ATT16
CONC. ppb CONSTITUENT
25 Methylene Chloride
43 1,1-Dichloroethane
60 trans-1,2-Dichloroethylene
10 Trichloroethylene
17 Tetrachloroethylene
ATT11
CONC. ppb CONSTITUENT
570 Vinyl Chloride
9417 Methylene Chloride
460 1,1-Dichloroethane
24996 trans-1,2-Dichloroethylene
560 1,1,1-Trichloroethane
2110 Trichloroethylene
370 Toluene
870 Tetrachloroethylene
ATT14
CONC. ppb CONSTITUENT
99 Vinyl Chloride
37 1,1-Dichloroethane
466 trans-1,2-Dichloroethylene
72 1,1,1-Trichloroethane
30 Trichloroethylene
ATT19
CONC. ppb CONSTITUENT
24 Methylene Chloride
34 Benzene
58 Ethylbenzene
ATT17
CONC. ppb CONSTITUENT
20 Vinyl Chloride
375 Chloroethane
8 Methylene Chloride
290 1,1-Dichloroethane
74 trans-1,2-Dichloroethylene
56 1,1,1-Trichloroethane
20 Trichloroethylene
170 Benzene
25 Tetrachloroethylene
ATT15
CONC. ppb CONSTITUENT
50 1,1-Dichloroethane
36 trans-1,2-Dichloroethylene
37 1,1,1-Trichloroethane
31 Trichloroethylene
14 Tetrachloroethylene
ATT20
CONC. ppb CONSTITUENT
ND
ATT10
CONC. ppb CONSTITUENT
ND
ATT9
CONC. ppb CONSTITUENT
9 trans-1,2-Dichloroethylene
78 Trichloroethylene
0 100
APPROXIMATE SCALE (FEET)
NOTES:
(1) WELLS ATT11, ATT14 - ATT17 AND ATT19 SAMPLED ON 4/15/85. WELLS ATT10, ATT12 AND ATT13 SAMPLED ON 4/17/85. WELLS ATT9 AND ATT20 SAMPLED ON 5/7/85.
(2) ALL ANALYSES PERFORMED BY ERT.
Dan Raviv Associates, Inc.
588 Eagle Rock Avenue, West Orange, New Jersey 07052
DISTRIBUTION OF TOTAL VOLATILE ORGANIC COMPOUNDS NEAR WELL ATT11
AT&T TECHNOLOGIES KEARNY, NJ
Prepared By MZ/RNH
Date JUNE, 1985
Job No. 85C217
FIGURE 20

853890317

853890318

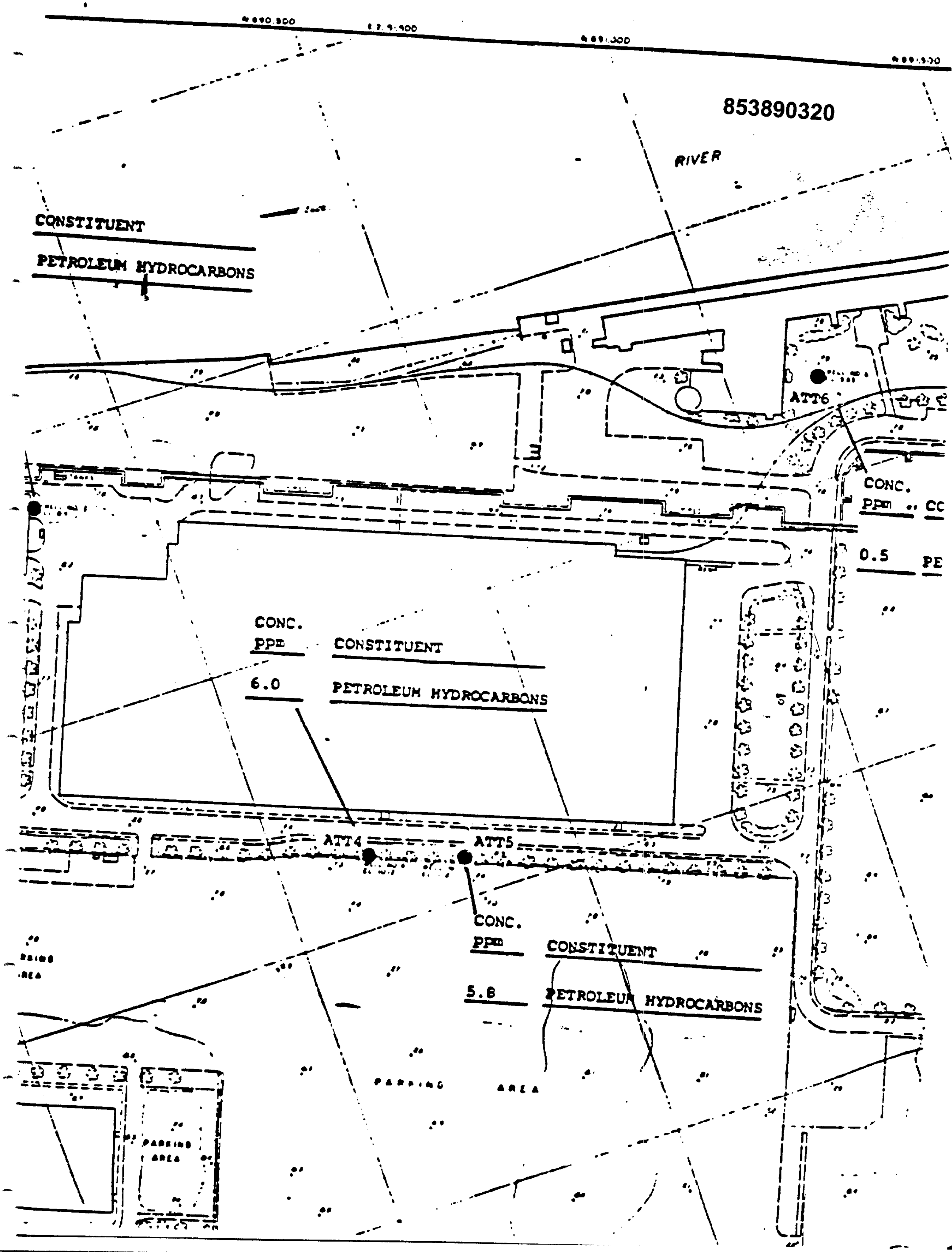

CONC. PPm
CONSTITUENT
0.8
PETROLEUM HYDROCARBONS
ATT13
ATT12
CONC. PPm
CONSTITUENT
0.5
PETROLEUM HYDROCARBONS
CONC. PPm
CONSTITUENT
3.7
PETROLEUM HYDROCARBONS
12 trans-1,2-dichloroethylene
10 tetrachloroethene
5.7 1,1,2-trichloroethane
1.2 methylene chloride
0.9 ethylbenzene
ATT11
ATT10
CONC. PPm
CONSTITUENT
1.3
PETROLEUM HYDROCARBONS
ATT9
CONC. PPm
CONSTITUENT
1.4
PETROLEUM HYDROCARBONS

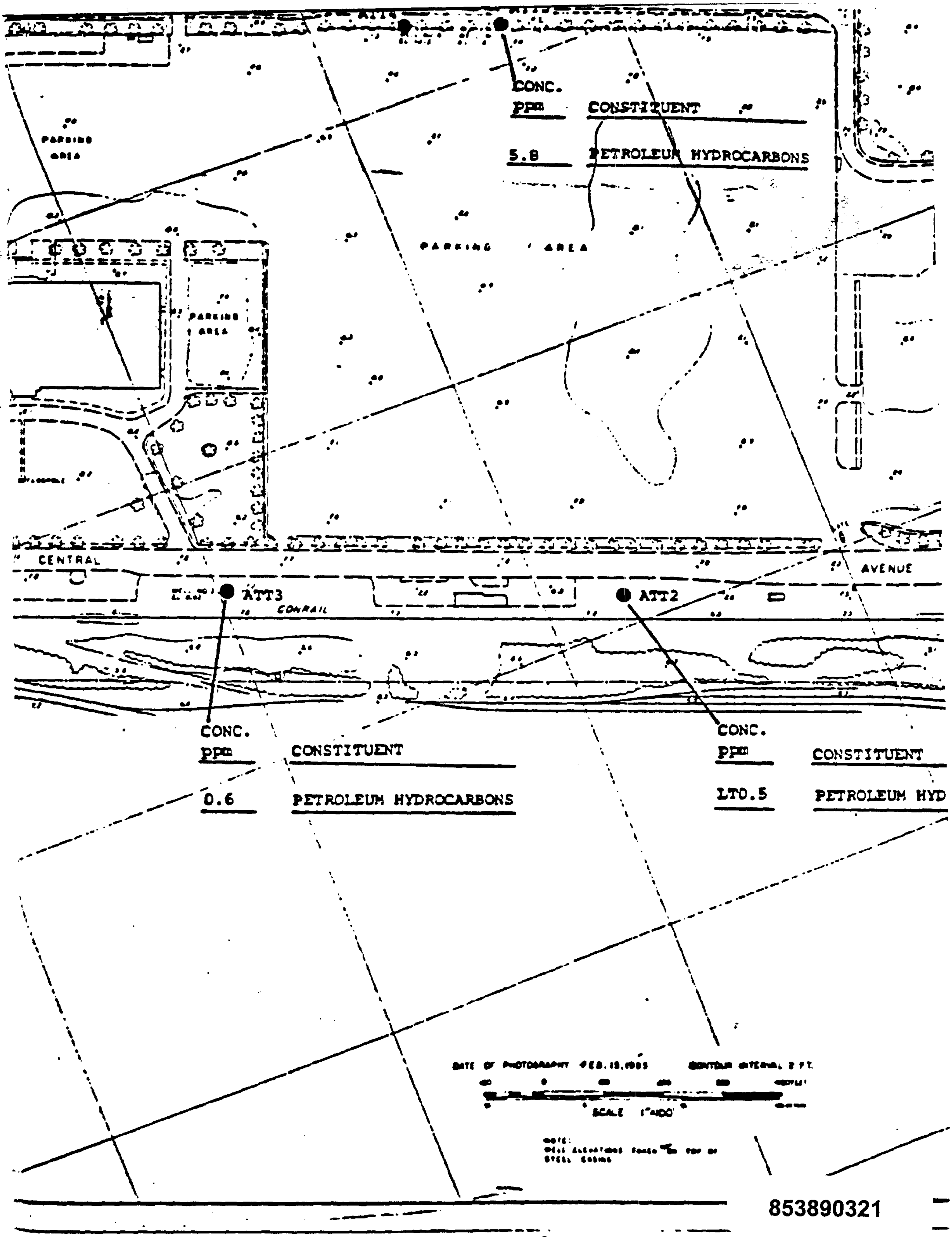


5.7 tetrachloroethene
1.2 1,1,2-trichloroethane
0.9 methylene chloride
ethylbenzene
ATT11
ATT10
CONC. ppm CONSTITUENT
1.3 PETROLEUM HYDROCARBONS
ATT9
CONC. ppm CONSTITUENT
1.4 PETROLEUM HYDROCARBONS
ATT8
CONC. ppm CONSTITUENT
4.3 PETROLEUM HYDROCARBONS

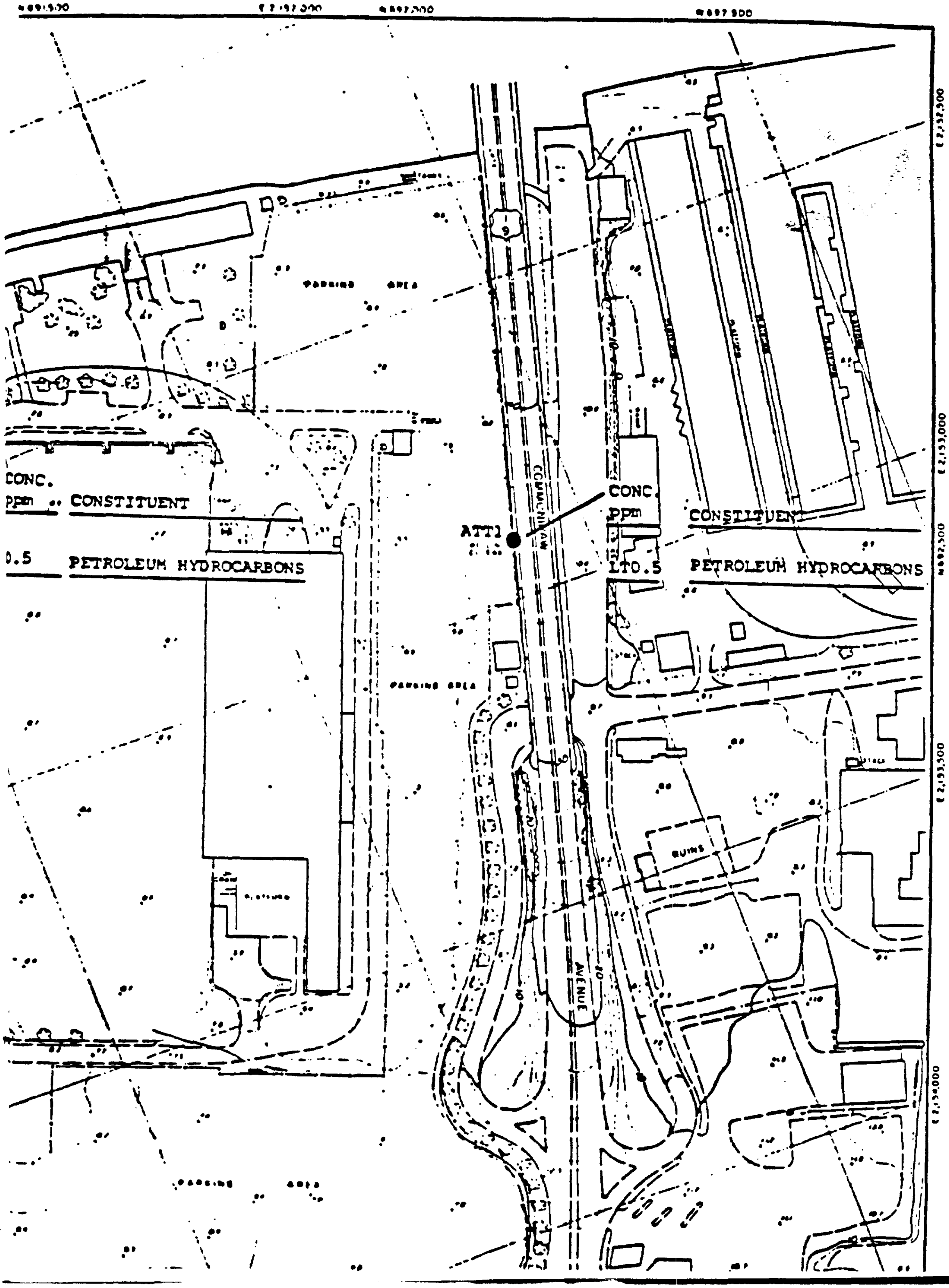
853890319

853890320

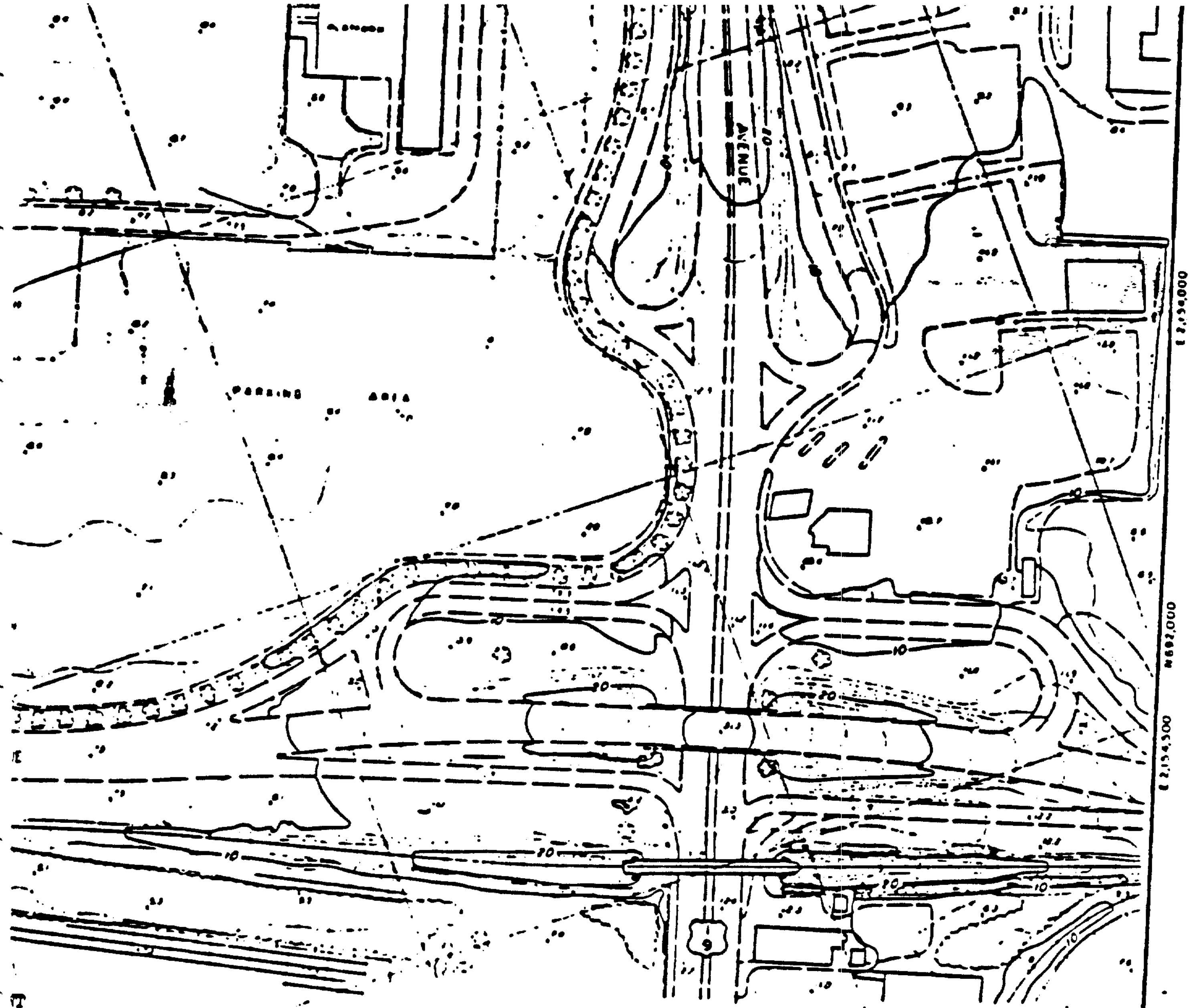

RIVER
CONSTITUENT
PETROLEUM HYDROCARBONS
ATT6
CONC.
PPm
CC
0.5
PE
CONC.
PPm
CONSTITUENT
6.0
PETROLEUM HYDROCARBONS
ATT4
ATT5
CONC.
PPm
CONSTITUENT
5.8
PETROLEUM HYDROCARBONS
PARKING AREA
PARKING AREA


CONC.
PPm
CONSTITUENT
5.8
PETROLEUM HYDROCARBONS
PARKING AREA
PARKING AREA
PARKING AREA
CENTRAL
AVENUE
ATT3
ATT2
CONRAIL
CONC.
PPm
CONSTITUENT
0.6
PETROLEUM HYDROCARBONS
CONC.
PPm
CONSTITUENT
LT0.5
PETROLEUM HYD
SCALE

853890321


CONC.
ppm
CONSTITUENT
0.5
PETROLEUM HYDROCARBONS
PARKING AREA
ATT1
CONC.
ppm
CONSTITUENT
LT0.5
PETROLEUM HYDROCARBONS
COMMUNIPAW
AVENUE
PARKING AREA
RUINS
PARKING AREA

853890322



HYDROCARBONS

Dan Raviv Associates, Inc.

588 Eagle Rock Avenue, West Orange, New Jersey 07052

Water Quality at Well Locations

AT&T Technology - Kearny Works
Kearny, New Jersey

March 27, 1985

FIGURE 19

853890323

THIS MAP CAN BE FOUND IN THE SITE FILE LOCATED AT: U.S. EPA SUPERFUND RECORDS CENTER, 290 BROADWAY, 18TH FLOOR, NY,NY 10007

REVISIONS	BY	CKD.	APP.	DATE

ENVIRONMENTAL RESEARCH & TECHNOLOGY, INC.
696 VIRGINIA ROAD, CONCORD, MASSACHUSETTS 01742

AT&T - KEARNY, NJ
Key Sampling Locations & Wells